

TEKFAX 113

TV SCHEMATICS COVER 16 MANUFACTURERS • HUNDREDS OF CHASSIS & MODEL NUMBERS • PUBLISHED BY ELECTRONIC TECHNICIAN/DEALER MAGAZINE 1 EAST FIRST STREET DULUTH MINNESOTA 55802

ADMIRAL

TV Chassis:

T9K3-1A, 1B 3
TK6 4
T28K3 5

Color TV Chassis:

K19 ..... 6, 7
M20 ..... 8, 9
8K18 ..... 10, 11
M25 ..... 12, 13
12K18 ..... 14, 15
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RCA SALES CORP.

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17EC45/19EC45 ..... 150, 151
19EC13 ..... 152, 153
23EC15 ..... 154, 155
17FC35 ..... 156, 157

TEKFAX 113

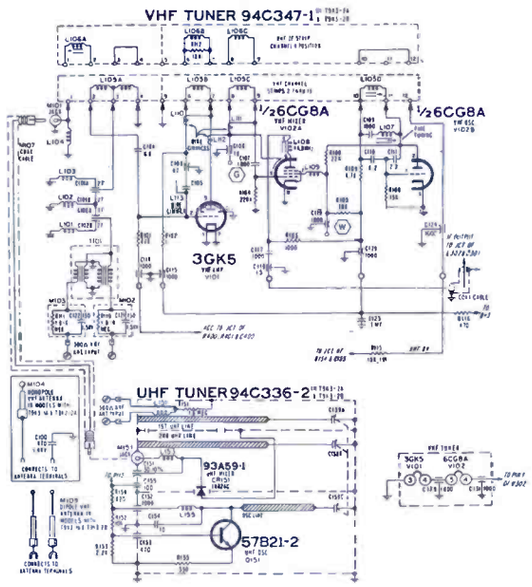
TV SCHEMATICS COVER 16 MANUFACTURERS • HUNDREDS OF CHASSIS & MODEL NUMBERS • PUBLISHED BY ELECTRONIC TECHNICIAN/DEALER MAGAZINE, 1 EAST FIRST STREET, DULUTH, MINNESOTA 55802

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ADMIRAL

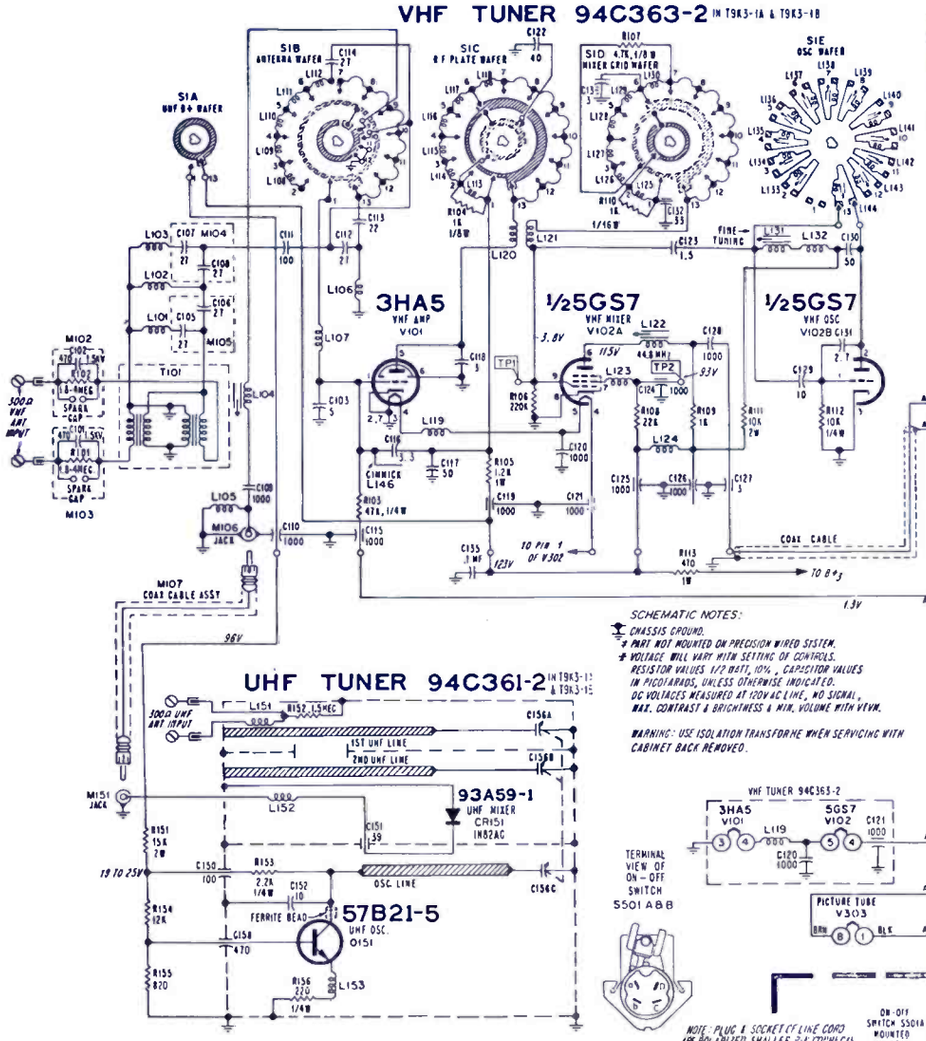
TV Chassis
T9K3-1A,1B

VHF TUNER 94C347-1



SYMBOL	DESCRIPTION	ADMIRAL PART NO.
R208	1M vol control w/switch	75C149-10
R311	25K, contrast control	75A148-9
R411	5M, height triple control	75C129-3
R417	1.2M, vert hold triple control	75C129-3
R421	500K, vert lin	75C129-3
R501	5.5Ω, fusible resistor	61C48-1
C503A	250 μf, 165v elect	67A30-11
C503B	150 μf, 150v elect	67A30-11
C503C	200 μf, 150v elect	67A30-11
L202	ratio detect	72C132-82
L301	47.25M trap	72C308-8
L401	horiz lock coil	94D17-19
L501	filter choke	74A18-63
T201	audio output xformer	79C124-3
T302	2nd IF xformer	72C310-1
T303	sound take off coil	72C185-7
T401	vert output xformer	79C139-5
T402	deflect yoke assembly	700C1089-12
T403	horiz output	79D138-14
	VHF tuner -1A	94A363-2
	-2A, -2B	94A347-1

VHF TUNER 94C363-2 IN T9K3-1A & T9K3-1B



UHF TUNER 94C361-2 IN T9K3-1B & T9K3-1E

RUN CHANGES

(10) Start of production.

SCHEMATIC NOTES:

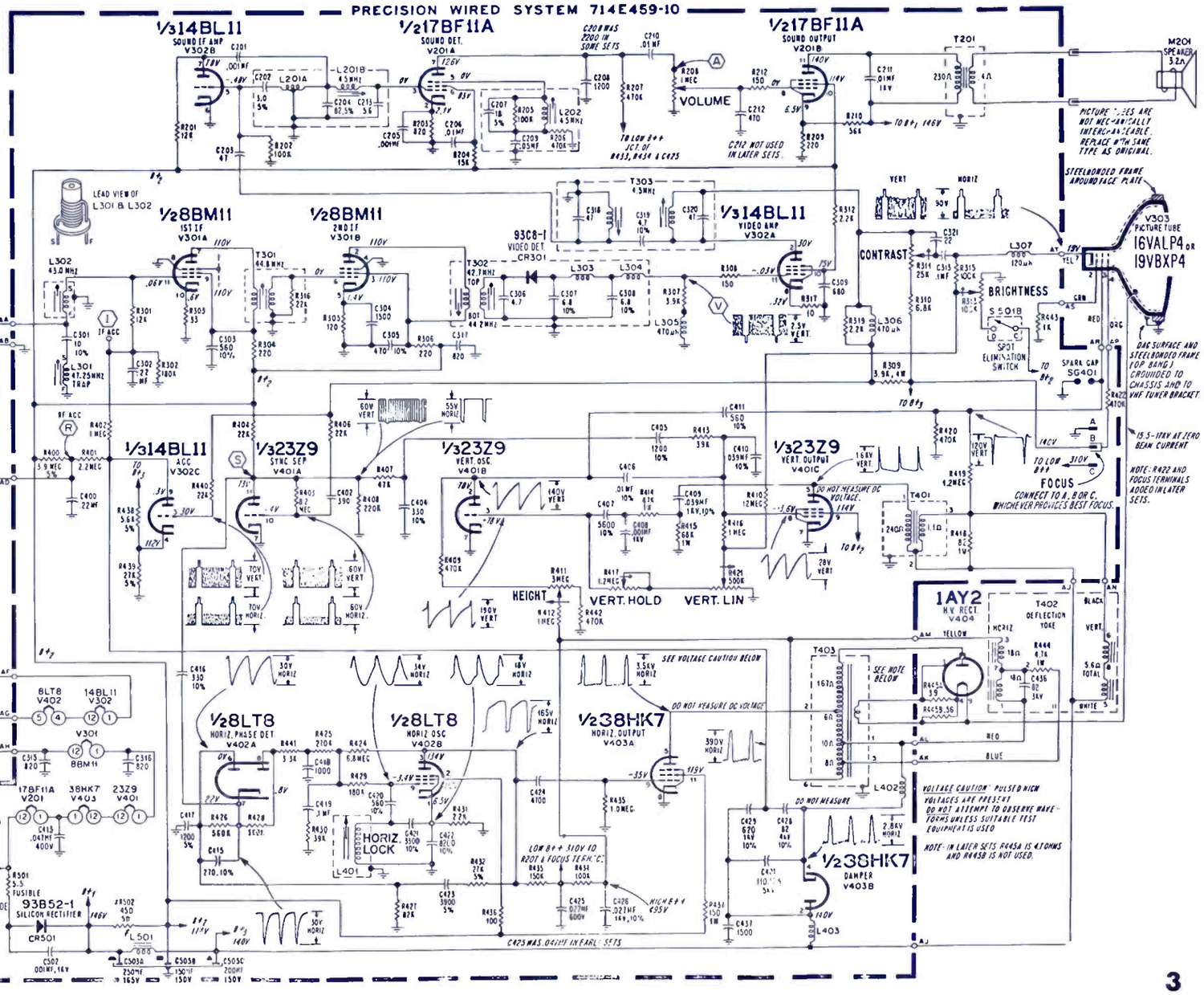
⏚ CHASSIS GROUND.

* PART NOT MOUNTED ON PRECISION WIRED SYSTEM.

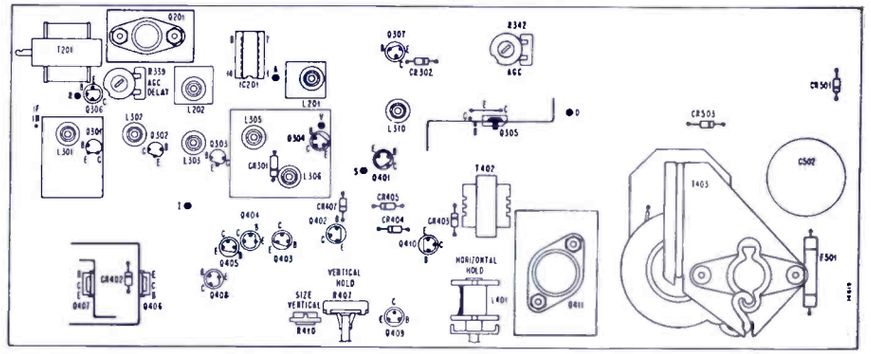
+ VOLTAGE WILL VARY WITH SETTING OF CONTROLS. RESISTOR VALUES 1/2 WATT, 10%, CAPACITOR VALUES IN MICROFARADS, UNLESS OTHERWISE INDICATED. DC VOLTAGES MEASURED AT 120V AC LINE, NO SIGNAL, MAX. CONTRAST & BRIGHTNESS & MIN. VOLUME WITH VTVM.

WARNING: USE ISOLATION TRANSFORMER WHEN SERVICING WITH CABINET BACK REMOVED.

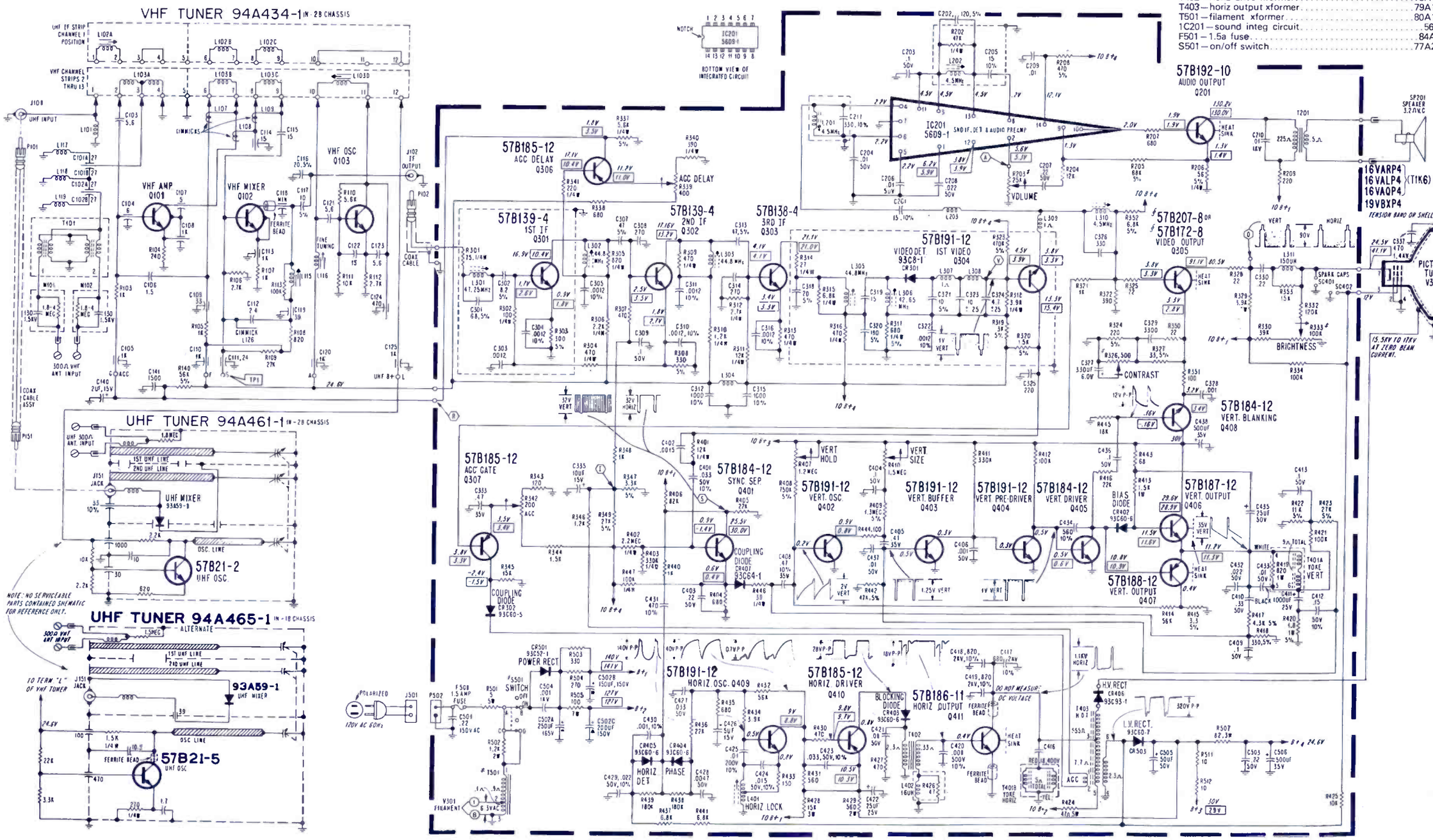
PRECISION WIRED SYSTEM 714E459-10



ADMIRAL
TV Chassis
TK6



SYMBOL	DESCRIPTION	ADMIRAL PART NO.
C502A	250 µf 165v electro	67A30-11
C502B	150 µf 150v electro	67A30-11
C502C	200 µf 150v electro	67A30-11
R505	100Ω, 10% 7w	61A59-101-172
R203	25K volume	75A167-9
R326	500Ω contrast	75A167-5
R333	100K brite	75A167-4
R339	400Ω AGC delay	75A101-50
R342	200Ω AGC	75A101-49
R407	1.2M vert hold	75A191-1
R410	1.5M vert size	75A101-57
L201	sound input coil	72A317-1
L202	4.5MHz sound coil	72A317-6
L310	4.5MHz trap	72A317-1
L401	horiz lock coil	94A480-1
T201	audio output xformer	79A124-7
T401A, B	deflect yoke	700A1089-15
T402	horiz drive xformer	79A167-1
T403	horiz output xformer	79A166-1
T501	filament xformer	80A117-2
1C201	sound integ circuit	56A9-1
F501	1.5a fuse	84A7-15
S501	on/off switch	77A221-2

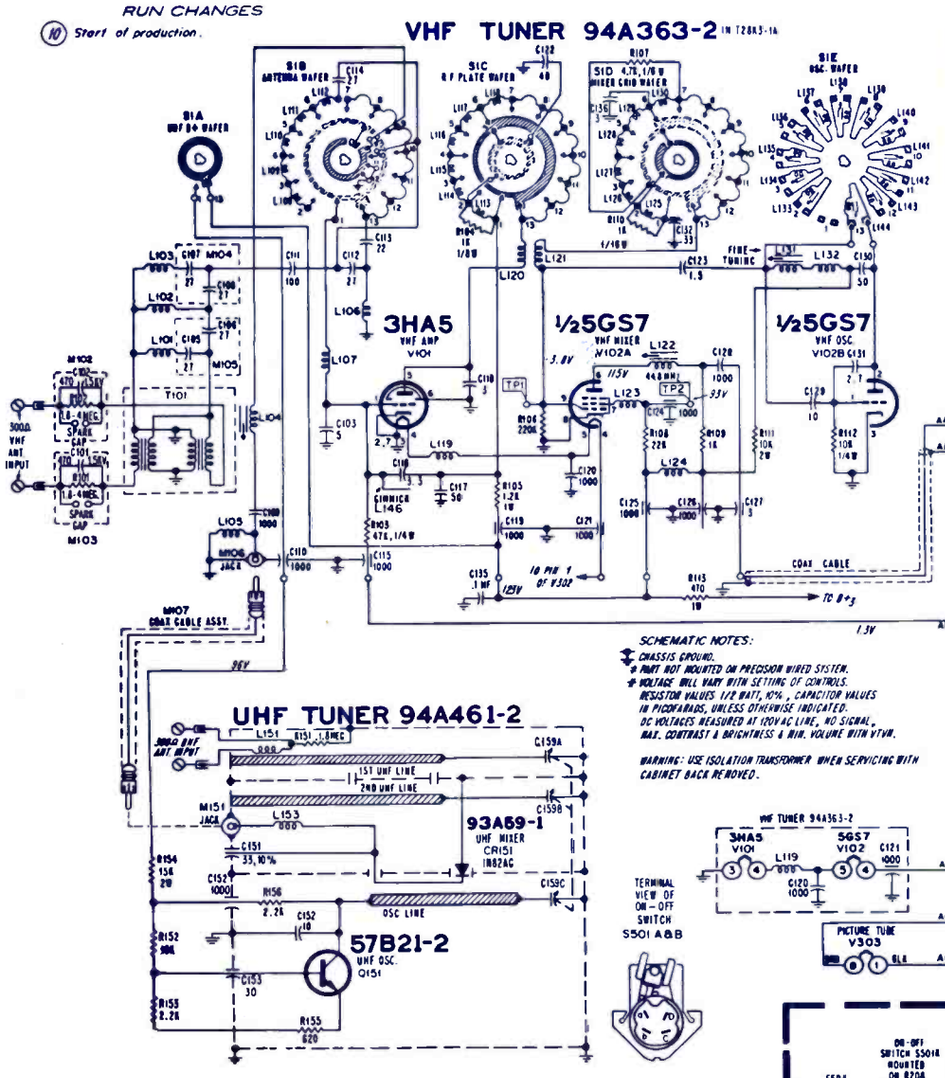


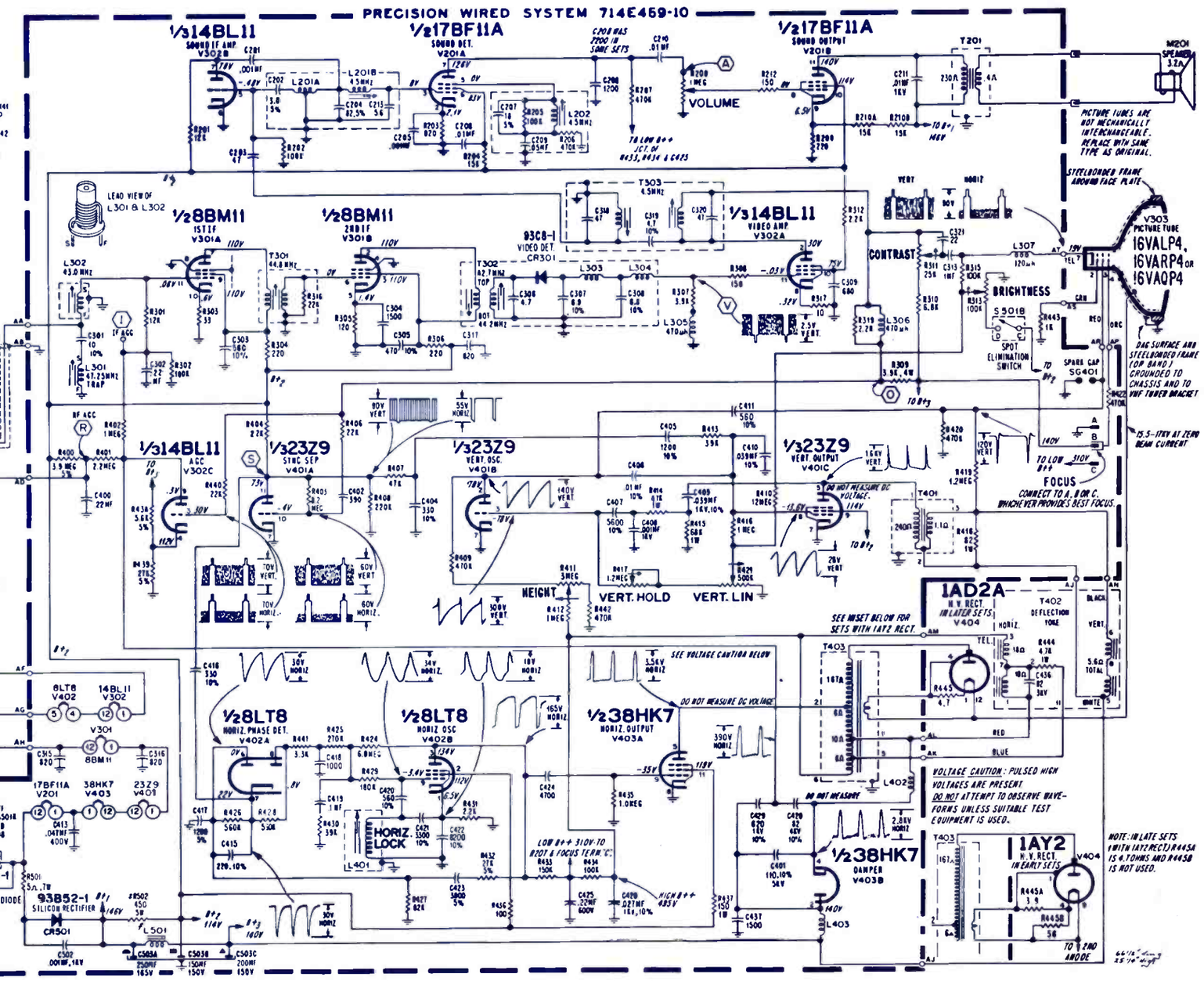
SYMBOL	DESCRIPTION	ADMIRAL PART NO.
R208	1M vol control T28K3	75A149-10
R311	25K, contrast control T28K3	75A149-9
R313	100K, brite control T28K3	75A149-8
R411	5M height, triple control	75A129-3
R417	1.2M vert hold, triple control	75A129-3
R421	500K, vert lin, triple control	75A129-3
C503A	250 µf, 165v, electrolytic	67A30-11
C503B	150 µf, 150v, electrolytic	67A30-11
C503C	200 µf, 150v, electrolytic	67A30-11
L201A,B	sound 1F & phase shift coil	72C301-4
L202	ratio detect	72C132-82
L301	47.25MHz trap	72C308-8
L401	horiz lock coil	94D17-19
L501	filter choke	74A18-63
T201	audio output xformer	79C124-3
T303	sound take off coil	72C185-7
T401	vert output xformer	79C139-5
T402	deflect yoke assembly	700C1089-12
T403	horiz output	79A138-20
F501	2.5a fuse	84A7-14
S501A,B	on/off switch	77A221-1
	UHF tuner	94A465-2
	VHF tuner	94A363-2

MODEL CHART					
MODEL	FINISH	CRT	VHF	UHF	CHASSIS
16P617	Walnut	16VARP4	94A363-2	94A465-2	T28K3-1A
19P807	Walnut	19VBXP4	94A363-2	94A465-2	T29K3-1B
SK 19P837C	Walnut	19VBXP4	94A363-2	94A465-2	T29K3-1B

RUN CHANGES

(10) Start of production.





SAFETY NOTICE

THE DESIGN OF THIS RECEIVER CONTAINS MANY CIRCUITS AND COMPONENTS INCLUDED SPECIFICALLY FOR SAFETY PURPOSES. FOR CONTINUED PROTECTION, NO CHANGES SHOULD BE MADE TO THE ORIGINAL DESIGN. REPLACEMENT PARTS MUST BE IDENTICAL TO THOSE USED IN THE ORIGINAL CIRCUIT. SERVICE SHOULD BE PERFORMED BY QUALIFIED PERSONNEL ONLY.

ADMIRAL
TV Chassis
T28K3

ADMIRAL

Color-TV Chassis
K19

MARCH • 1973

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.

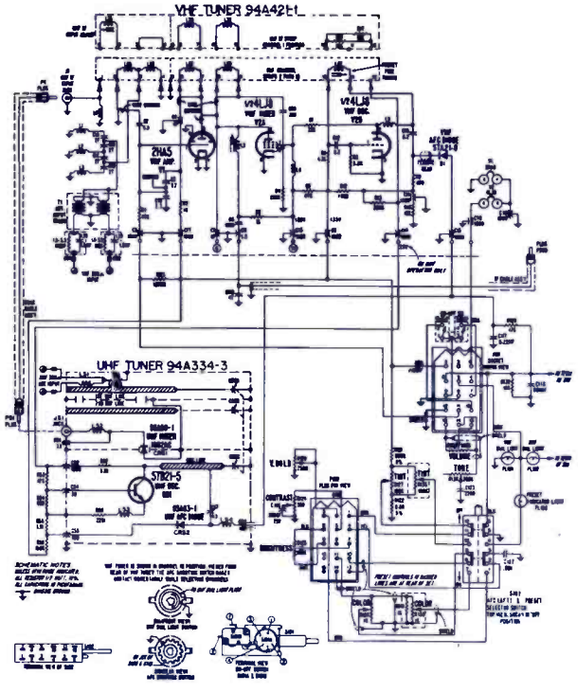
TRANSISTOR CAUTION: TO AVOID DAMAGE TO TRANSISTORS, DO NOT OPERATE CHASSIS WITH PICTURE TUBE DAG DISCONNECTED FROM CHASSIS GROUND. DO NOT TURN SET ON WITH TRANSISTOR(S), TUBE(S) OR LEADS REMOVED OR UNSOLDERED. DO NOT ARC 2ND ANODE LEAD TO CHASSIS GROUND. DISCHARGE 2ND ANODE ONLY TO PICTURE TUBE DAG OR 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×100 RANGE OR HIGHER.

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

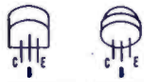
TP SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

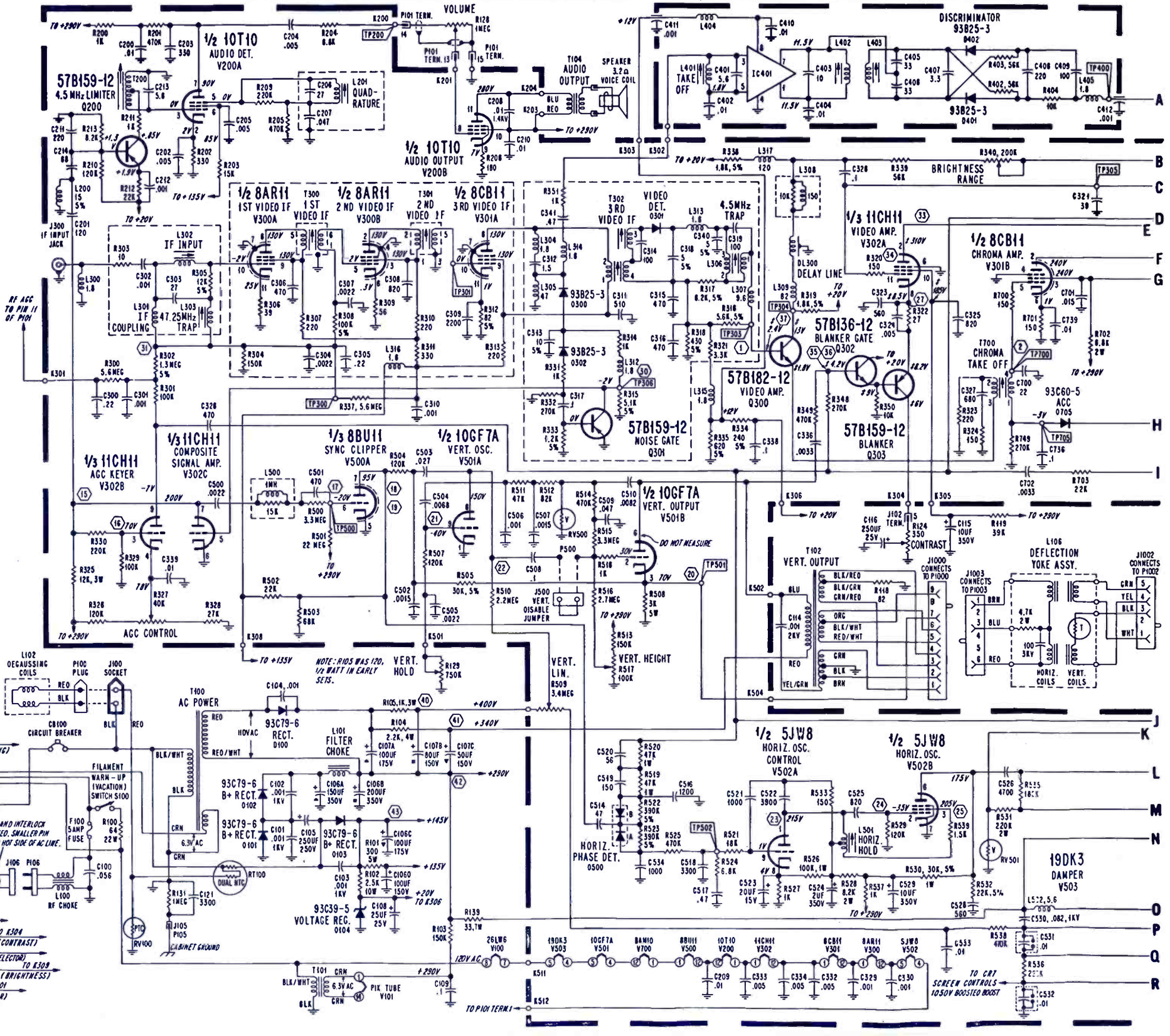
(1) HEXAGONS IDENTIFY WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOS.

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.

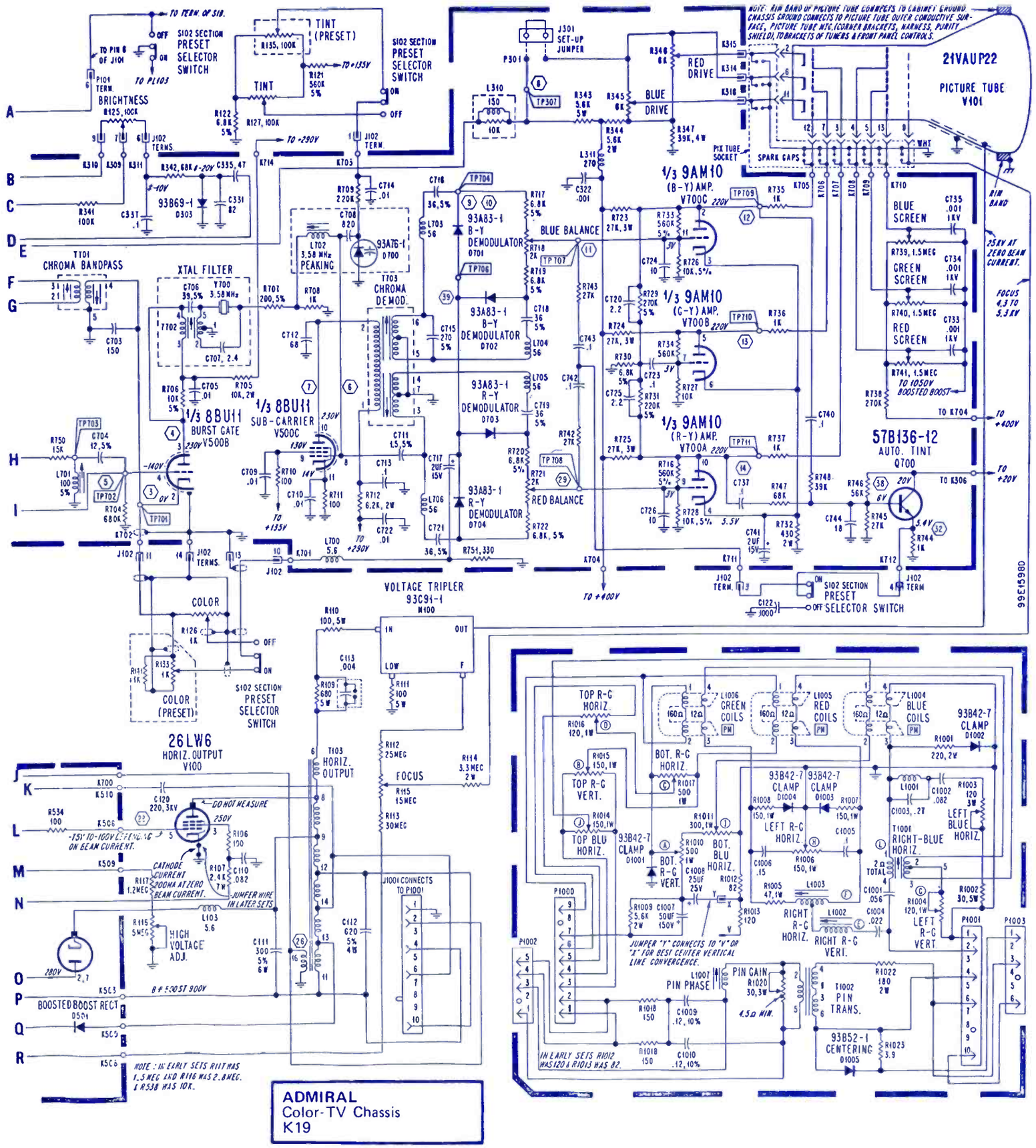








SYMBOL	DESCRIPTION	ADMIRAL PART NO.
R115	15M focus cont	75A108-7
R116	5M high volt cont	75A135-48
R129	750K vert hold cont, K-19	75A186-1
R129	750K vert hold cont, 2K19	75A134-28
R327	40K AGC cont	75A155-9
R340	200K bright range cont	75A155-10
R718	2K blue balance cont	75A101-40
R739	1.5M blue screen cont	
R740	1.5M green screen cont	75A155-1
R741	1.5M red screen cont	
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	50μf, 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


21VAUP22
PICTURE TUBE
V101
1/3 9AM10
(B-Y) AMP.
V700C
1/3 9AM10
(G-Y) AMP.
V700B
1/3 9AM10
(R-Y) AMP.
V700A
1/3 8BU11
BURST GATE
V500B
1/3 8BU11
SUB-CARRIER
V500C
57B136-12
AUTO. TINT
Q700
26LW6
HORIZ. OUTPUT
V100
93A83-1
B-Y
DEMODULATOR
D701
93A83-1
B-Y
DEMODULATOR
D702
93A83-1
R-Y
DEMODULATOR
D703
93A83-1
R-Y
DEMODULATOR
D704
93A76-1
D700
93B69-1
D303
93B42-7
CLAMP
D1001
93B42-7
CLAMP
D1004
93B42-7
CLAMP
D1003
93B42-7
CLAMP
D1002
93B52-1
CENTERING
D1005
VOLTAGE TRIPLER
93C91-1
M100
T101
CHROMA BANDPASS
T702
XTAL FILTER
Y700 3.58MHz
T703
CHROMA
DEMOD.
L702
3.58 MHz
PEAKING
T103
HORIZ.
OUTPUT
T1002
PIN
TRANS.
T1001
RIGHT-BLUE
HORIZ.
L1001
LEFT
BLUE
HORIZ.
L1002
RIGHT R-G
VERT.
L1003
RIGHT
R-G
HORIZ.
L1004
BLUE
COILS
L1005
RED
COILS
L1006
GREEN
COILS
L1007
PIN PHASE
L310
150
10K
L311
270
L343
5.6K
5W
L345
6K
L344
5.6K
2W
L347
39K, 4W
L322
.001
L703
56
L704
56
L705
56
L706
56
L721
36,5%
L700
5.6
L702
3.58 MHz
PEAKING
L701
100
5%
L1011
300,1W
L1012
82
L1013
120
L1018
150
L1019
150
R301
P301
TP307
TP704
TP706
TP709
TP710
TP711
TP708
TP703
TP702
TP701
TP707
TP705
J301
SET-UP
JUMPER
J102
TERMS.
J102
TERM.
P104
TERM.
TO TERM. OF S1B.
TO PIN 8 OF J101
TO PL103
S102 SECTION
PRESET
SELECTOR
SWITCH
TINT
(PRESET)
R135, 100K
R121
560K
5%
TO +135V
R122
6.8K
5%
R127, 100K
TINT
TO +290V
BRIGHTNESS
R125, 100K
R342, 68K
R341
100K
C335, 47
C331
82
C337
.1
$-40V
$-20V
R714
R705
C714
.01
C716
36,5%
C708
820
C715
270
5%
C718
36
5%
C719
36
5%
C720
2.2
C722
.01
C723
.1
C724
10
C725
2.2
C726
10
C740
.1
C741
2UF
15V
C742
.1
C743
.1
C744
18
C745
.1
C746
.1
C747
68K
C748
.1
C749
.1
C750
.1
C751
.1
C752
.1
C753
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C754
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C755
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C756
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C757
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C758
.1
C759
.1
C760
.1
C761
.1
C762
.1
C763
.1
C764
.1
C765
.1
C766
.1
C767
.1

ADMIRAL
Color-TV Chassis
M20

RUN CHANGES

(10) START OF PRODUCTION.

(11) C314 CHANGED FROM 470 TO 220. R717 CHANGED FROM 2.2K TO 1.5K. R324 CHANGED FROM 680 TO 560. R325 CHANGED FROM 120 TO 150. R616 CHANGED FROM 120K TO 390K. L222 & C248 ADDED. C501 WAS 120 & C515 WAS 2200. FUSE F900 WAS 1AMP. & FUSE F904 WAS .5 AMP. C229 WAS 1PF. C447 ADDED.

(12) C713 ADDED. R717 CHANGED FROM 1.5K TO 1.8K. DELAY LINE DL700 (PART # 72A407-1) REMOVED FROM MODULE M700 & REPLACED WITH DELAY LINE DL100 (PART # 700A1629-1) WHICH MOUNTS TO CHASSIS. CONNECTORS P203 AND J203 ADDED. REPLACE DELAY LINE WITH SAME PART NO.

M900 POWER SUPPLY

M200 VIDEO IF

M300 SIGNAL PROCESSOR

M400 CHROMA PROCESSOR

M500 SOUND

M600 VERTICAL

M700 VIDEO CHROMA OUTPUT

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IC'S ARE VIEWED FROM TOP.
BOTTOM VIEWS OF TRANSISTORS
E=EMITTER B=BASE C=COLLECTOR SH=SHIELD

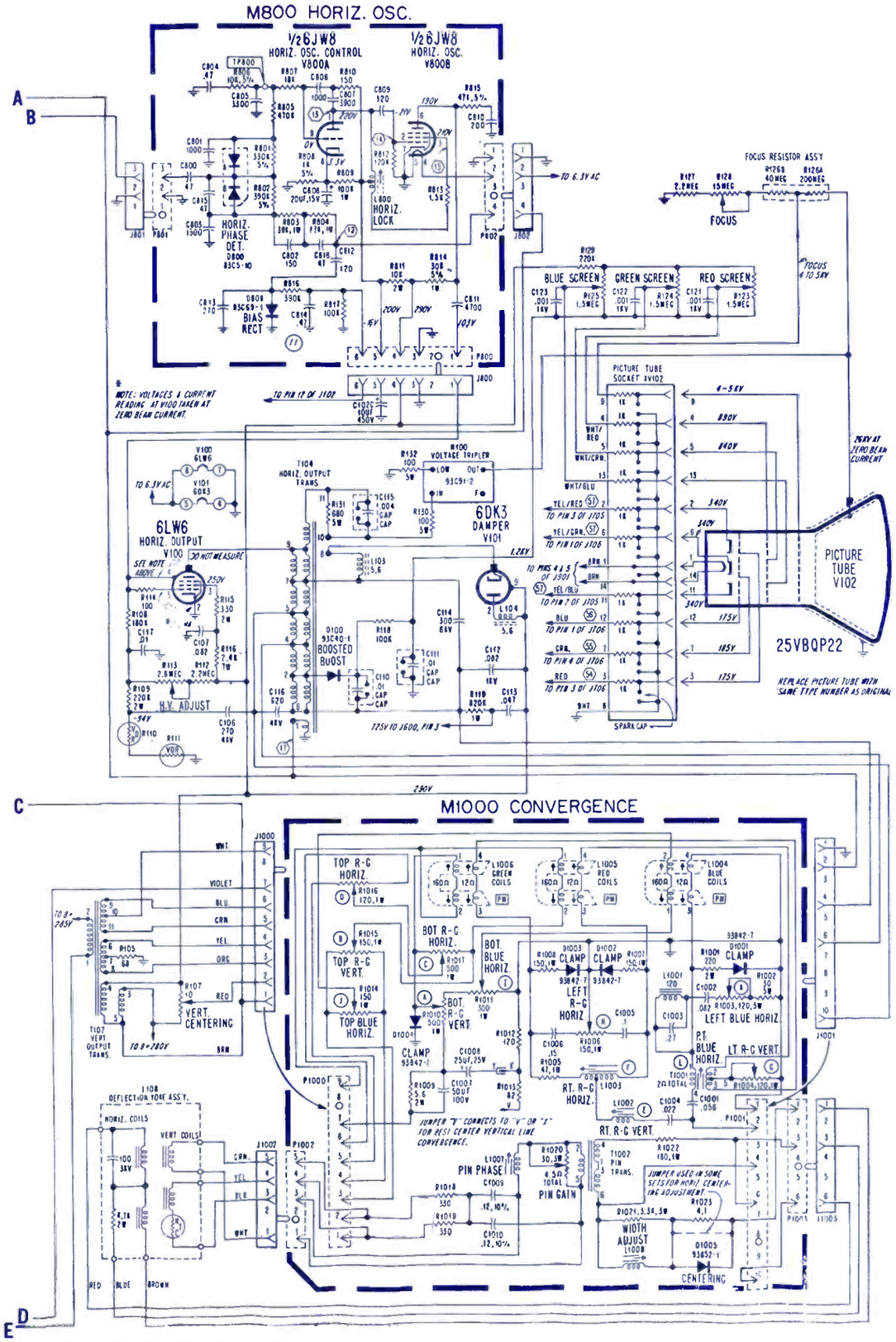
NOTES: UNLESS OTHERWISE SPECIFIED; RESISTANCE VALUES ARE IN OHMS, 10%, 1/2 WATT, CAPACITANCE VALUES FOR HIGHER ARE IN PF; CAPACITANCE VALUES LESS THAN 1 ARE IN UF. INDUCTANCE VALUES ARE IN UH. ⏚ INDICATES CHASSIS GROUND. Hz INDICATES CYCLES PER SECOND. DC VOLTAGES ARE MEASURED WITH VTVM PLACED BETWEEN 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 DAC 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 DAC OR DAC 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 OHMETER FOR RESISTANCE MEASUREMENT, USE VTVM ON R X 100 RANGE OR HIGHER.

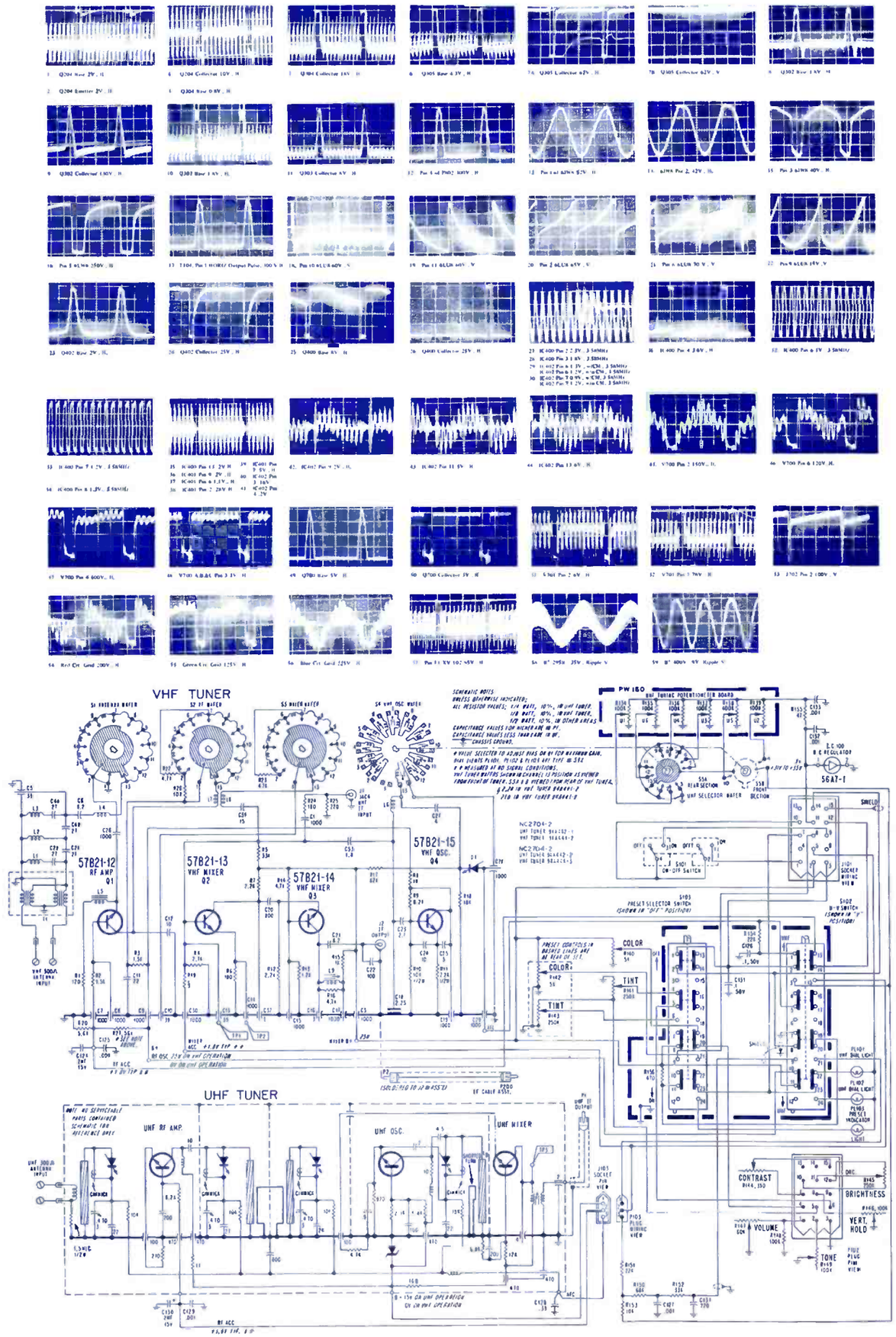
(10) RUN NUMBER INDICATES CHANGE (S) INCORPORATED AS GIVEN UNDER THAT RUN NUMBER, AS WELL AS ALL LOWER RUN CHANGES.

TP SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

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

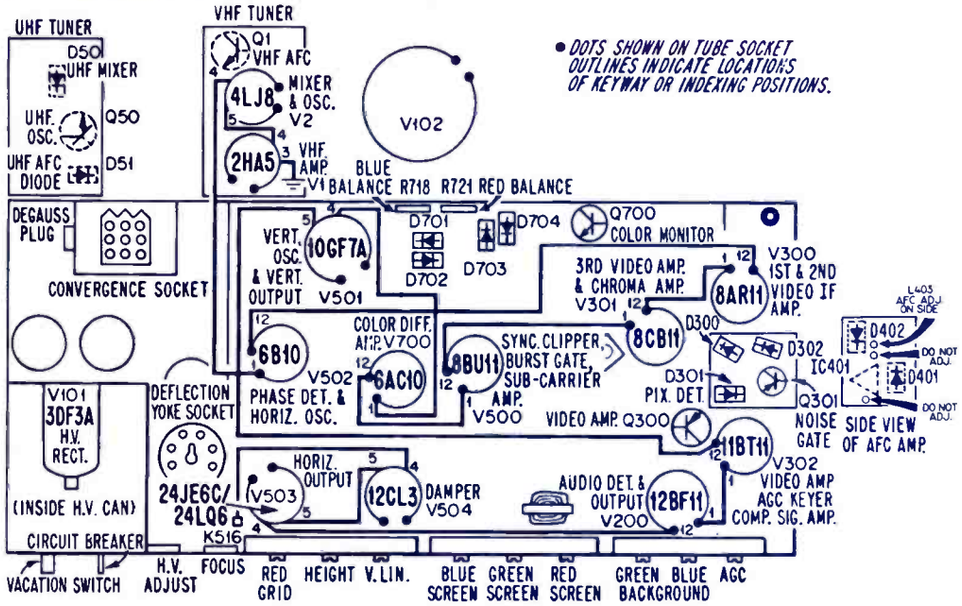


ADMIRAL
Color-TV Chassis
M20



ADMIRAL

Color-TV Chassis
8K18



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

SYMBOL	DESCRIPTION	ADMIRAL COLOR-TV PART NO.
R109	75K, horiz, hold-coarse	75A177-2
R110	20K, horiz hold-fine	75A177-2
R112	500K, high voltage, adjust	75A159-12
R121	12M, focus control	75A157-14
R123	750K, vert hold control	75A135-46
R127	volume control	75A135-46
R509	3.4M, vert lin, triple cont	75A155-8
R517	100K, vert height, triple cont	75A155-8
R734	100K, red grid, triple cont	75A155-8
R739	1.5M, blue screen, triple cont	75A155-1
R740	1.5M, green screen, triple cont	75A155-1
R741	1.5M, red screen, triple cont	75A155-1
RV101	VDR	61A52-2
RV102	VDR	61A46-13
RT101	thermistor (degauss)	61A57-5
RV500	varistor, vert	61A65-1
C109A	80 Ω, 175v, electro	67A15-410
C109B	100 Ω, 400v, electro	67A15-410
C109C	30 Ω, 400v, electro	67A15-410
C109D	10 Ω, 150v, electro	67A15-410
C110A	120 Ω, 400v, electro	67A15-409
C110B	20 Ω, 400v, electro	67A15-409
C110C	100 Ω, 150v, electro	67A15-409
C110D	4 Ω, 300v, electro	67A15-409
L105	filter choke	74A31-1
L106	yoke, deflect	94A379-4
L201	sound quad coil	72A366-1
L306	4.5MHz trap coil	72A367-1
L501A, B	horiz freq sinewave coil	72A373-1
T101	power xformer	80C116-1
T102	vert output xformer	79D153-5
T103	horiz output xformer	79D162-2
T200	4.5MHz driver xformer	72A361-1
T201	audio output xformer	79A151-1
T700	chroma take-off xformer	72A368-1
CB101	circuit breaker	84A17-16
F101	4a fuse	84A7-12
F102	.35a fuse	84A28-8

RUN CHANGES

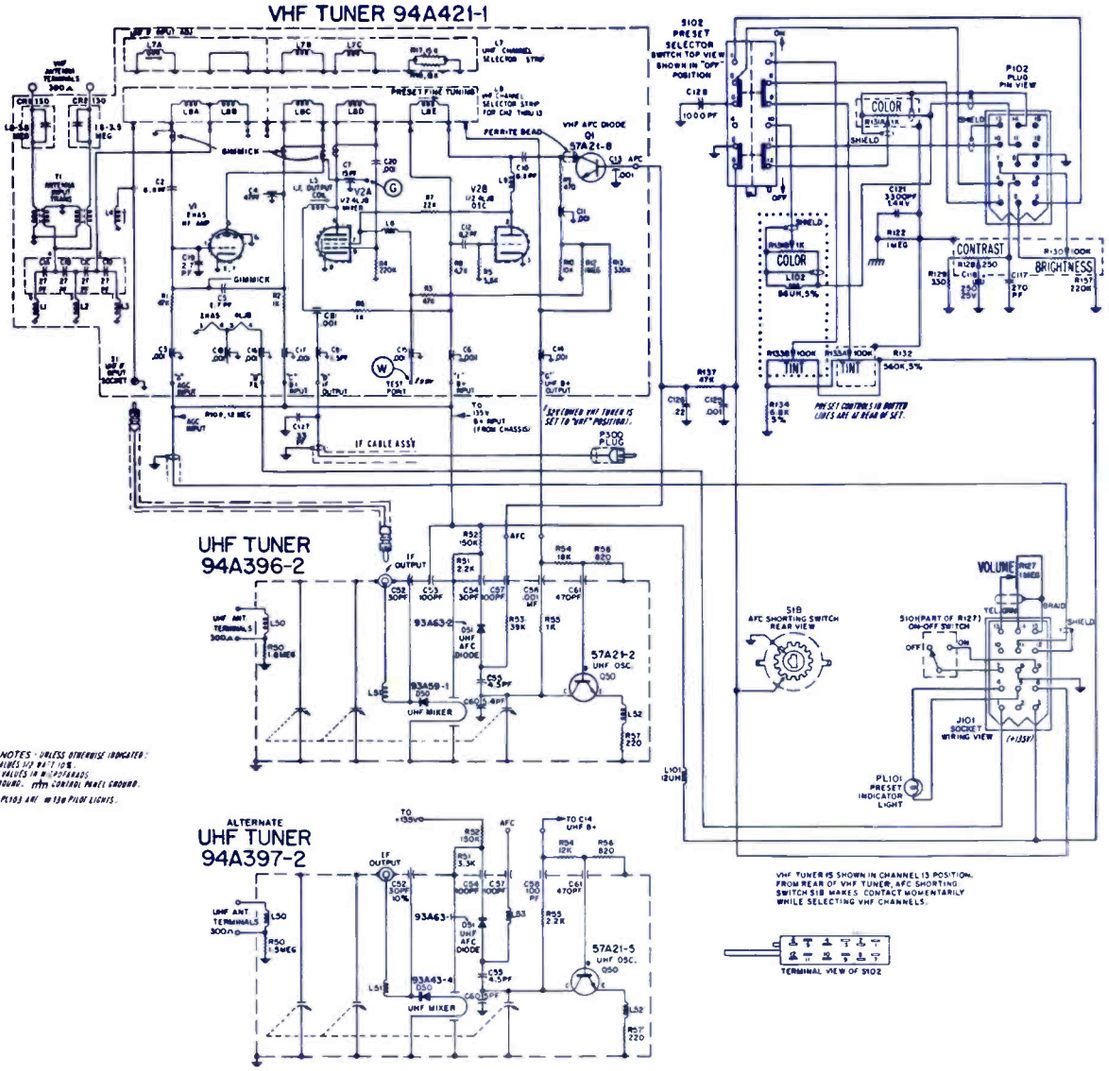
(16) Start of production

(17) 4.5MHz limiter circuitry added. See inset at right for 4.5MHz Sound Driver and Audio Detector in Run 16 sets.

(18) To simplify circuitry 12 meg resistor removed from tuner cluster & connected from point K301 to K308 as R339.

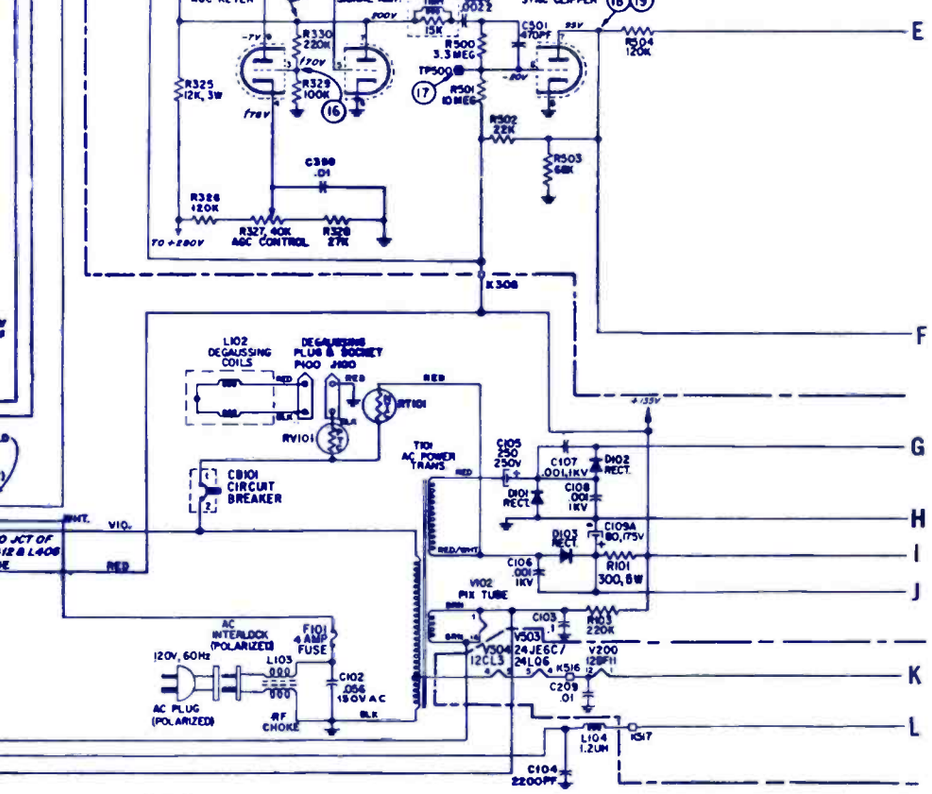
(19) No service significance.

(20) L318 was added to eliminate possibilite of "tweet in some areas.



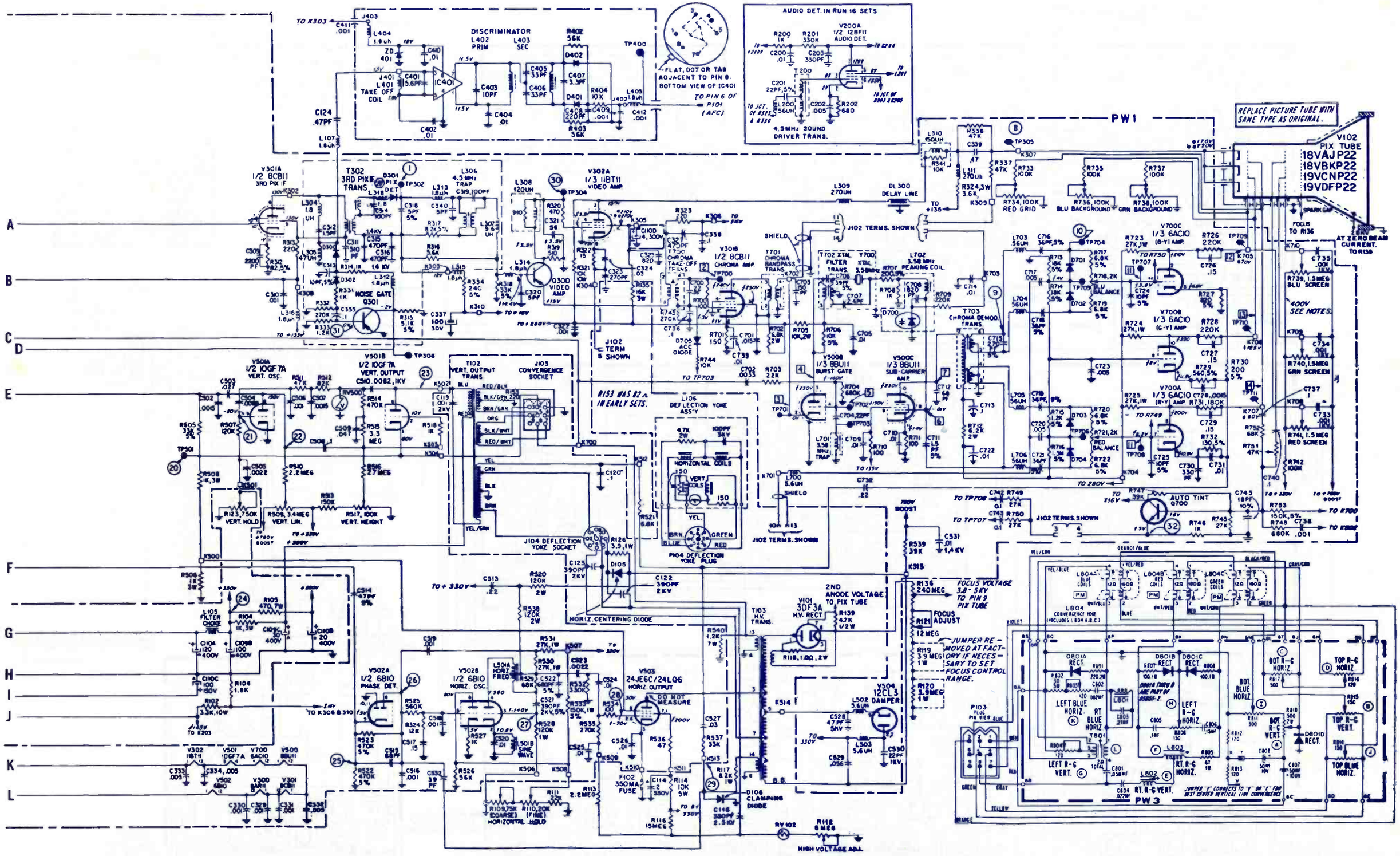
SCHEMATIC NOTES - UNLESS OTHERWISE INDICATED:
ALL RESISTOR VALUES 1/2 WATT 10%.
ALL CAPACITOR VALUES IN MICROFARADS.
⏚ CHASSIS GROUND. ⎓ CONTROL PANEL GROUND.
P101, P102 & P103 ARE #13B PILOT LIGHTS.

VHF TUNER IS SHOWN IN CHANNEL 13 POSITION. FROM REAR OF VHF TUNER, AFC SHORTING SWITCH S1B MAKES CONTACT MOMENTARILY WHILE SELECTING VHF CHANNELS.



BOTTOM VIEW OF TRANSISTORS IN CHASSIS

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).
P INDICATES VOLTAGE READING TAKEN WITH COLOR BAR GENERATOR PRODUCING 3V PP AT TP303.
5. WAVEFORMS ARE TAKEN WITH NORMAL SIGNAL INPUT.



6. LINE VOLTAGE INPUT SET AT 120V AC.
7. (/) INDICATES THE VOLTAGE WILL VARY WITH FINE TUNING SETTING FROM 0V TO ± 3%.
   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.
   INDICATES VOLTAGES WILL VARY WITH VIDEO CONTENT OF PICTURE RECEIVED & ARE AVERAGE READINGS.
(⊙) INDICATES VOLTAGES WILL VARY WITH BACKGROUND CONTROL SETTINGS.

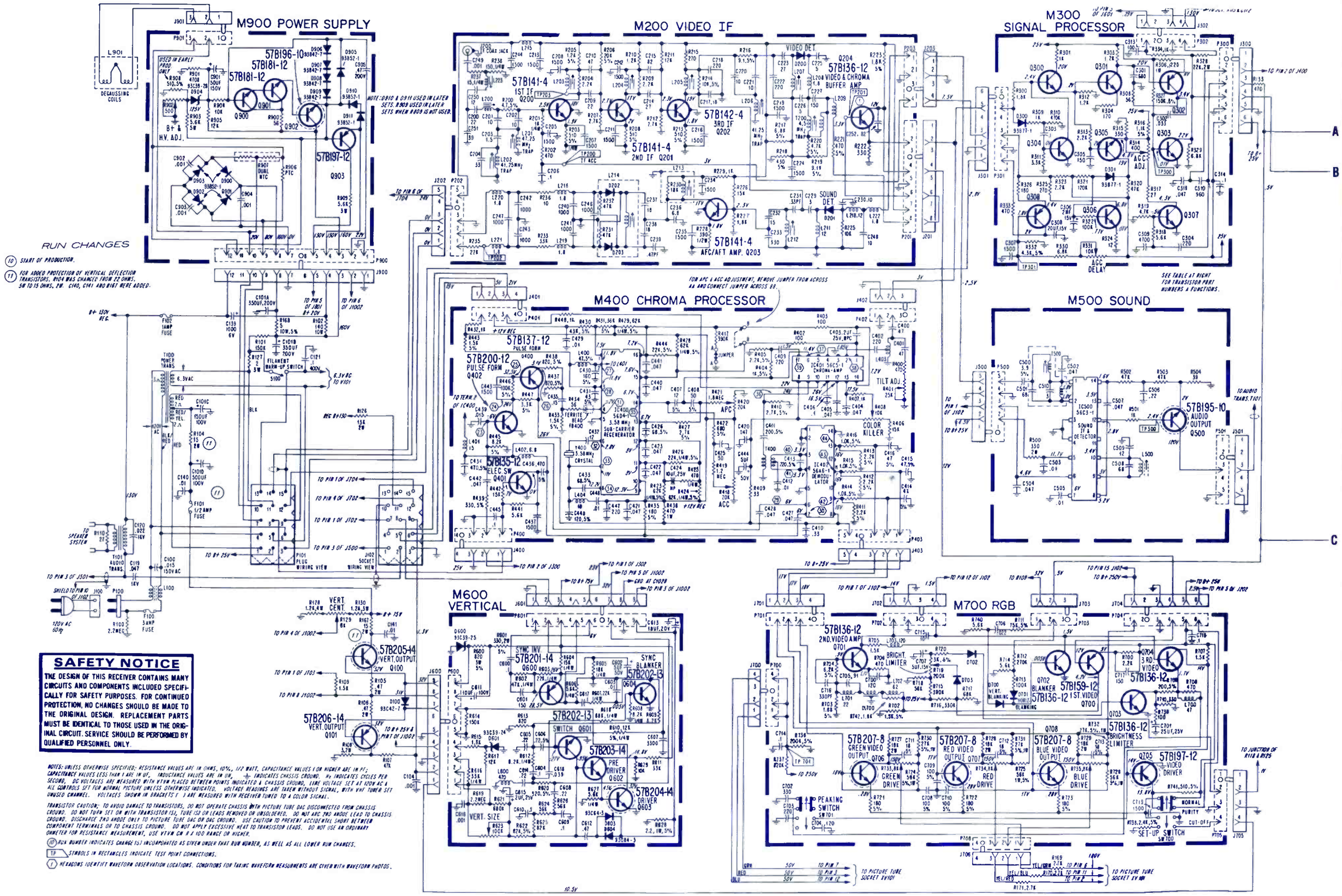
SAFETY NOTICE

A

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ADMIRAL

Color-TV Chassis
M25



RUN CHANGES

(10) START OF PRODUCTION.

(11) FOR ADDED PROTECTION OF VERTICAL DEFLECTION TRANSISTORS, R104 WAS CHANGED FROM 22 OHMS, 5W TO 15 OHMS, 2W. C140, C141 AND D107 WERE ADDED.

SAFETY NOTICE

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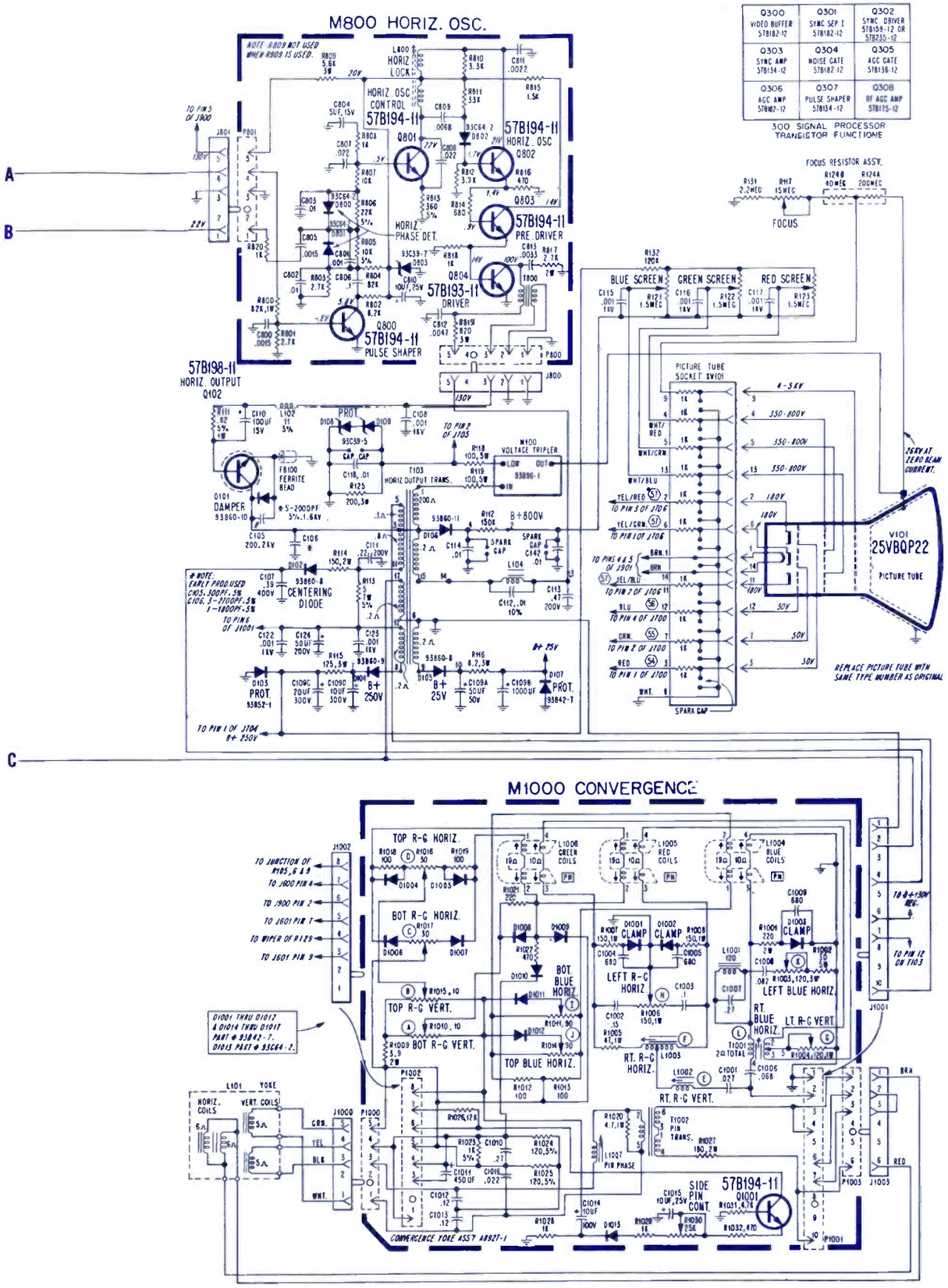
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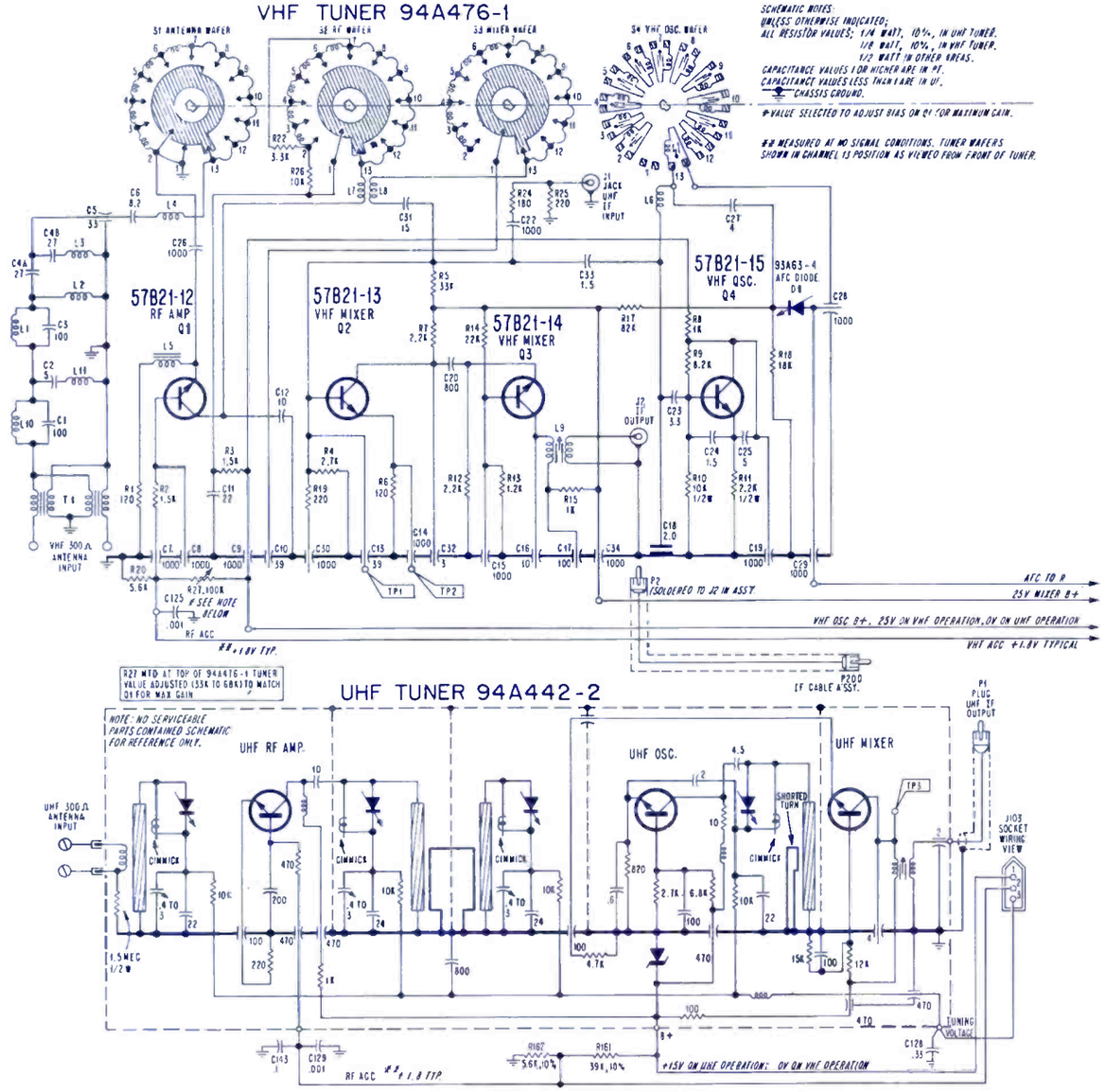
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Q300 VIDEO BUFFER 57B182-12	Q301 SYNC SEP I 57B182-12	Q302 SYNC DRIVER 57B159-12 OR 57B235-12
Q303 SYNC AMP 57B134-12	Q304 NOISE GATE 57B182-12	Q305 AGC GATE 57B136-12
Q306 AGC AMP 57B182-12	Q307 PULSE SHAPER 57B134-12	Q308 RF AGC AMP 57B175-12

300 SIGNAL PROCESSOR TRANSISTOR FUNCTIONS





ADMIRAL
Color-TV Chassis
M25

ADMIRAL

Color-TV Chassis
12K18

NOTES:
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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).
ƒ INDICATES VOLTAGE READING TAKEN WITH COLOR BAR GENERATOR PRODUCING 3V PP AT TP303.
5. WAVEFORMS ARE OBSERVED WITH NORMAL SIGNAL INPUT.

⏚ CHASSIS GROUND.

6. LINE VOLTAGE INPUT SET AT 120 AC

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.

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BOTTOM VIEW OF TRANSISTORS IN CHASSIS



RUN CHANGES

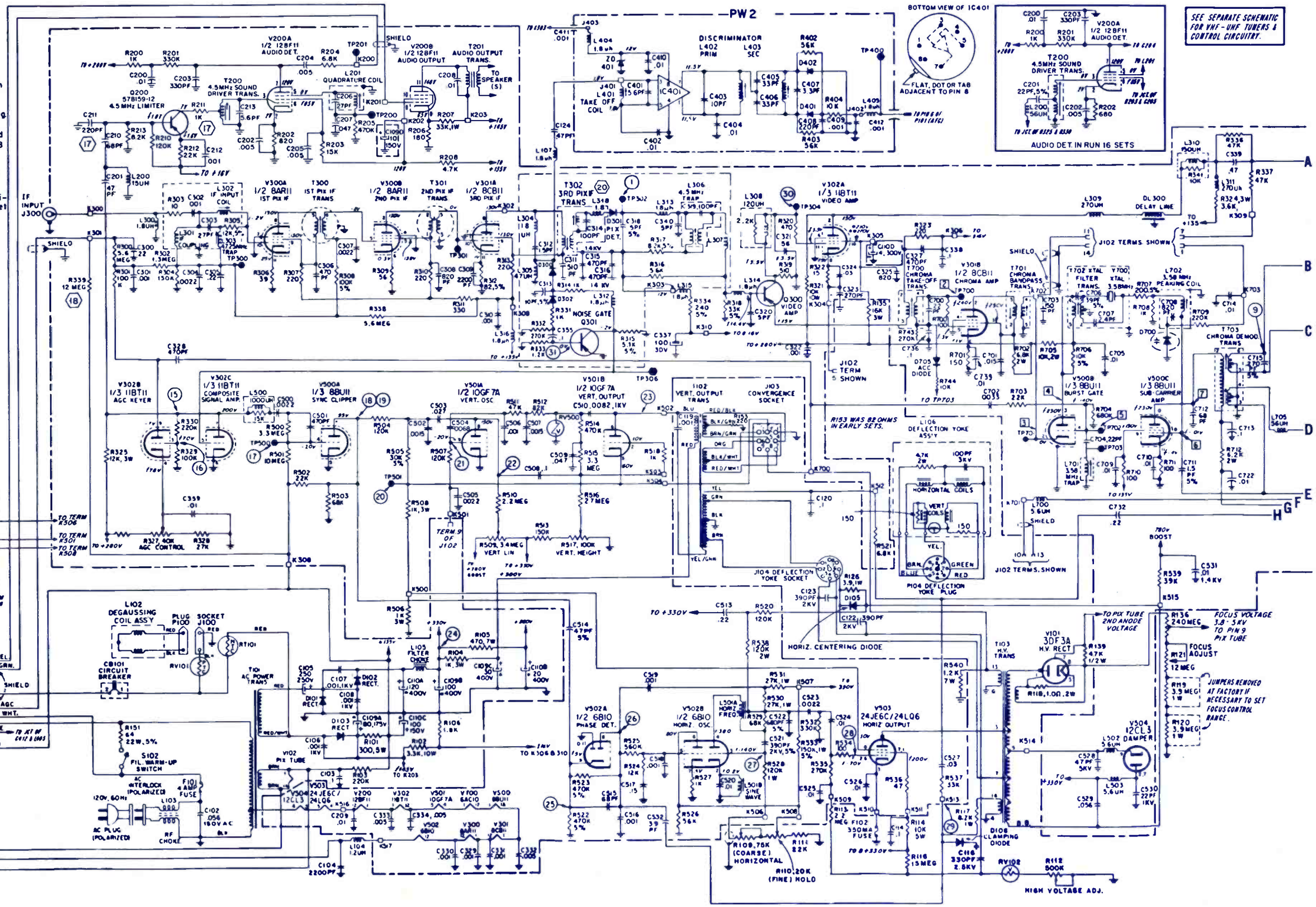
(16) Start of production

(17) 4.5MHz limiter circuitry added. See inset at right for 4.5MHz Sound Driver and Audio Detector in Run 16 sets.

(18) To simplify circuitry 12meg. resistor removed from tuner cluster & connected from point K301 to K308 as R339.

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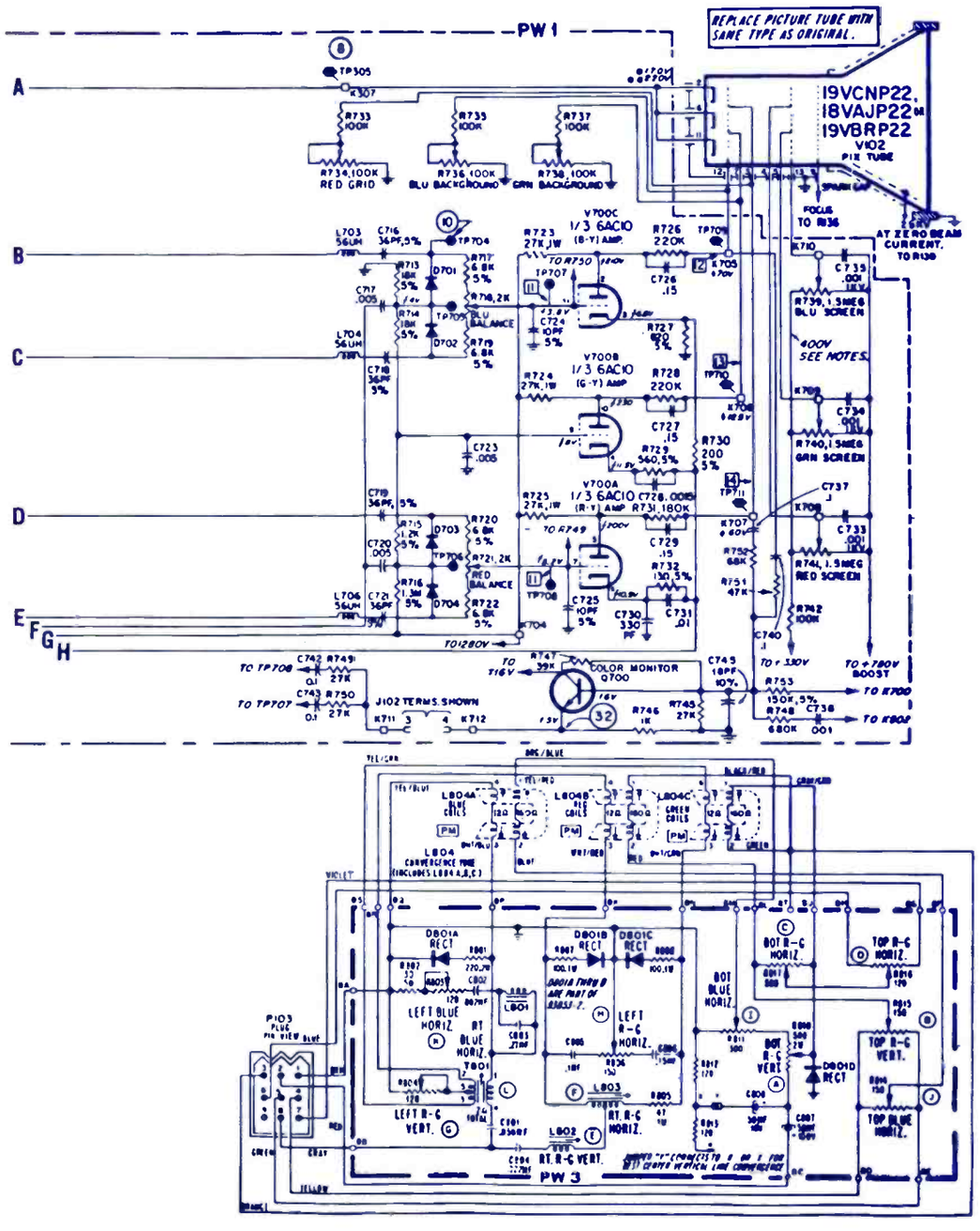

PW2
DISCRIMINATOR
L402 PRIM
L403 SEC
IC401
BOTTOM VIEW OF IC401
FLAT, DOT OR TAB ADJACENT TO PIN 8
AUDIO DET. IN RUN 16 SETS
SEE SEPARATE SCHEMATIC FOR VHF-UHF TUNERS & CONTROL CIRCUITRY.
V200A 1/2 12BF11 AUDIO DET.
T200 4.5MHz SOUND DRIVER TRANS.
Q200 57B159-12 4.5MHz LIMITER
L201 QUADRATURE COIL
V200B 1/2 12BF11 AUDIO OUTPUT
T201 AUDIO OUTPUT TRANS.
TO SPEAKER (S)
IF INPUT J300
V300A 1/2 8AR11 1ST PIX IF
T300 1ST PIX IF TRANS
V300B 1/2 8AR11 2ND PIX IF
T301 2ND PIX IF TRANS
V301A 1/2 8CB11 3RD PIX IF
T302 3RD PIX IF TRANS
L318
V302A 1/3 11BT11 VIDEO AMP
Q300 VIDEO AMP
NOISE GATE Q301
L306 4.5MHz TRAP
L309 270UH
DL300 DELAY LINE
J102 TERMS. SHOWN
V3028 1/3 11BT11 AGC KEYER
V302C 1/3 11BT11 COMPOSITE SIGNAL AMP.
V500A 1/3 88U11 SYNC CLIPPER
V501A 1/2 10GF7A VERT. OSC
V501B 1/2 10GF7A VERT. OUTPUT
J102 SOCKET WIRING VIEW
P101 PLUG PIN VIEW
L102 DEGAUSSING COIL ASSY
S102 PIL. WARM-UP SWITCH
F101 4 AMP FUSE
T101 AC POWER TRANS
V102 PIX TUBE
V503 24JE6C/24LQ6
V200 12BH11
V302 11BT11
V501 10GF7A
V700 6AC10
V500 88U11
V300 6AR11
V301 8CB11
L103
L104
L105 FILTER CHOKE
V502 6BU8
V504 24JE6C/24LQ6
V3024 1/2 6BH10 PHASE DET.
V3028 1/2 6BH10 HORIZ. OSC.
V503 24JE6C/24LQ6 HORIZ OUTPUT
V504 12CL3 L502 DAMPER
L504A HORIZ FREQ.
L504B HORIZ. LIN.
L505 HORIZ. HOLD
L506 HORIZ. PEAKING
L507 HORIZ. OUTPUT
L508 HORIZ. BLANKING
L509 HORIZ. CENTERING
L510 HORIZ. WIDTH
L511 HORIZ. LINEARITY
L502 DAMPER 5.6UH
L503 5.6UH
T103 H.V. TRANS
V101 3DF3A H.V. RECT
R118, 1.0Ω, 2W
R139 47K 1/2W
R136 240MEG FOCUS VOLTAGE 3.8-5KV TO PIN 9 PIX TUBE
R121 FOCUS ADJUST 12 MEG
R119 3.9 MEG 1W
R120 3.9MEG 1W
JUMPERS REMOVED AT FACTORY IF NECESSARY TO SET FOCUS CONTROL RANGE.
TO PIX TUBE 2ND ANODE VOLTAGE
780V BOOST
R539 39K
C531 .01 1.4KV
R515
R540 1.2K 7W
C513 .22
R520 120K
R538 120K 2W
C514 47PF 5%
R531 27K, 1W
R530 27K, 1W
R507
C523 .0022
C524 .01
C525 .01
R533 330K
R535 270K
R534 100
R536 47
R537 33K
C527 .03
C528 47PF 5KV
C529 .056
C530 22PF 1KV
R513 2.2 MEG F102 350MA FUSE
R114 10K 5W
R116 15MEG
R117 8.2K 1W
D106 CLAMPING DIODE
C116 330PF 2.5KV
RV102
R112 800K
HIGH VOLTAGE ADJ.
R126 3.9,1W
D105
C123 390PF 2KV
C122 390PF 2KV
HORIZ. CENTERING DIODE
J104 DEFLECTION YOKE SOCKET
P104 DEFLECTION YOKE PLUG
L106 DEFLECTION YOKE ASSY
HORIZONTAL COILS
VERT. COILS
R153 WAS 82 OHMS IN EARLY SETS.
R108, 75K (COARSE) HORIZONTAL
R110, 20K (FINE) HOLD
R109 82K
R502 22K
R503 68K
R504 120K
R505 30K 5%
R506 1K 3W
R507
R508 1K, 3W
R509, 3.4 MEG VERT LIN
R510 2.2 MEG
R511 47K
R512 82K
R513
R514 470K
R515 3.3 MEG
R516
R517, 100K VERT. HEIGHT
R518 1K
R519
R520 120K
R521 6.8K
R522 470K 5%
R523 470K 5%
R524 12K
R525 560K
R526 56K
R527 1K
R528 120K 1W
R529 68K
R530 27K, 1W
R531 27K, 1W
R532 150K, 1W 5%
R533 330K
R534 100
R535 270K
R536 47
R537 33K
R538 120K 2W
R539 39K
R540 1.2K 7W
R541 10K
R542 150
R543 150
R544 10K
R545 27 MEG
R546 10K
R547 10K
R548 10K
R549 10K
R550 10K
R551 10K
R552 10K
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R564 10K
R565 10K

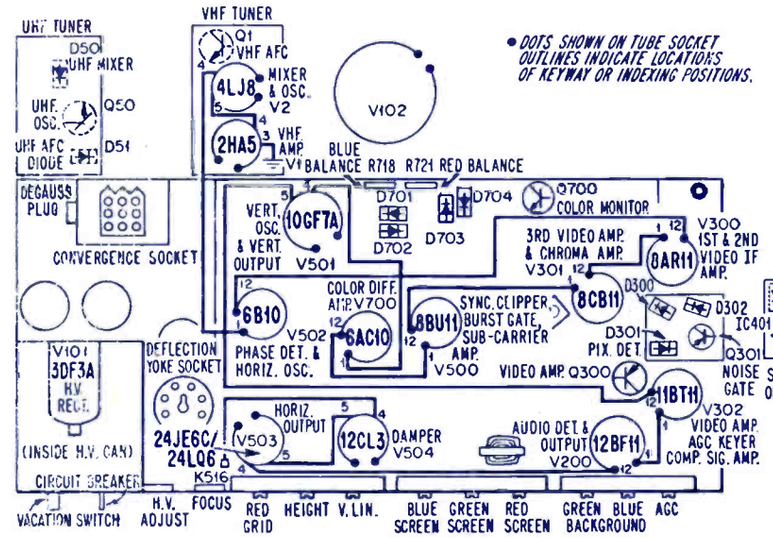
SAFETY NOTICE

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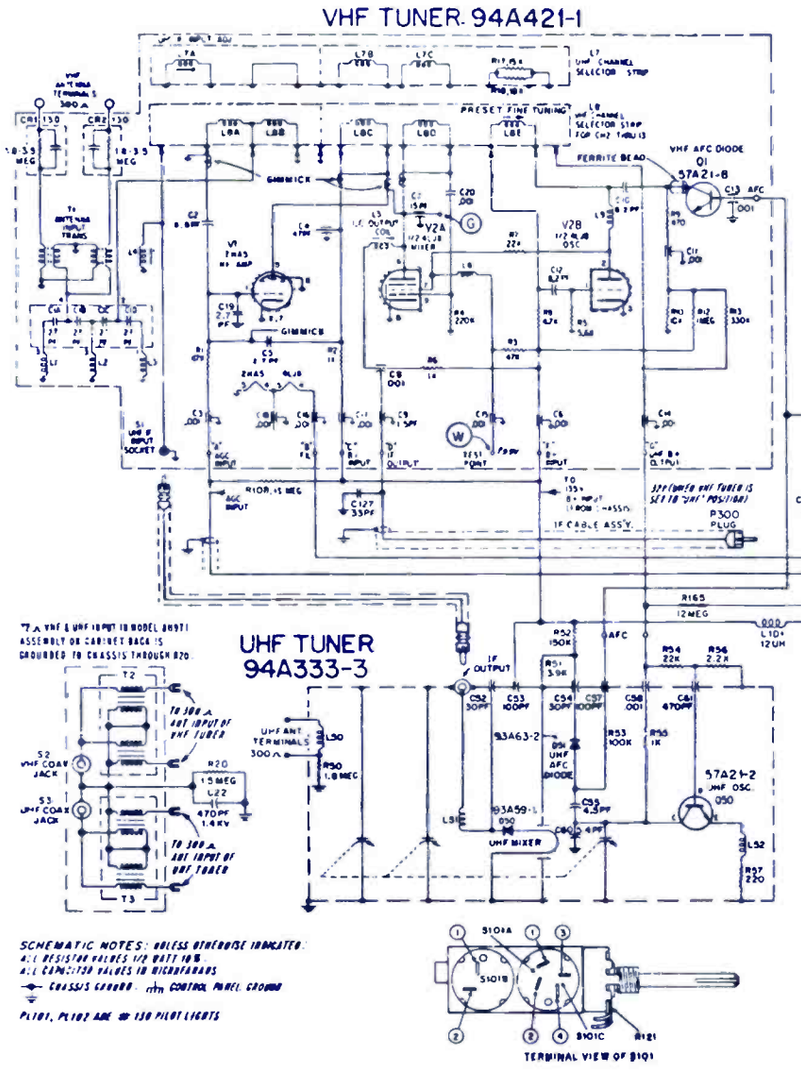
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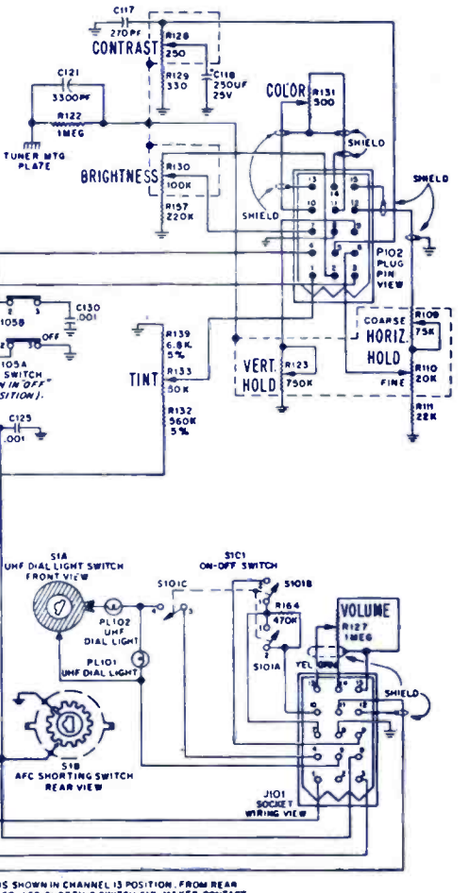
SYMBOL	DESCRIPTION	ADMIRAL PART NO.
R112	500K, HV adj cont	75A159-12
R121	12M focus cont	75A157-14
R123	750K, vert hold cont	See Tuner
R127	1M vol cont	
R136	240M focus bleeder	61A66-2
R509	3.4M vert lin	75A155-8
R517	100K, vert height triple cont.	75A155-8
R734	100K, red grid	75A155-8
R718	2K blue balance cont	75A101-40
R721	2K red balance cont	75A101-40
RV101	VDR	61A52-2
RV102	VDR	61A46-13
RT101	thermistor	61A57-5
RV500	varistor vert	61A65-1
L106	yoke deflect	94A379-4
L201	sound quad coil	72A366-1
C109A	80 µf, 175v	67A15-410
C109B	100 µf, 400v	67A15-410
C109C	30 µf, 400v	67A15-410
C109D	10 µf, 150v electrolytic	67A15-410
C110A	120 µf, 400v	67A15-409
C110B	20 µf, 400v	67A15-409
C110C	100 µf, 150v	67A15-409
C110D	4 µf, 300v electrolytic	67A15-409
L501A,B	horiz frequency sinewave coil	72A373-1
L701	3.58MHz trap coil	72A363-1
T101	power xformer	80C116-1
T102	vert output xformer	79D153-5
T103	horiz output xformer	79D162-2
T200	4.5MHz driver xformer	72A303-17
T201	audio output xformer	79A151-1
T700	chroma take off xformer	72A368-1
T701	chroma bandpass xformer	72A358-1
T702	crystal filter xformer	72A362-1
T703	chroma demod xformer	72A357-1
CB101	circuit breaker 1.5a	84A17-16
F101	4a fuse	84A7-12
F102	.35 fuse	84A28-8





TOP DRAWING OF 12K18 CHASSIS

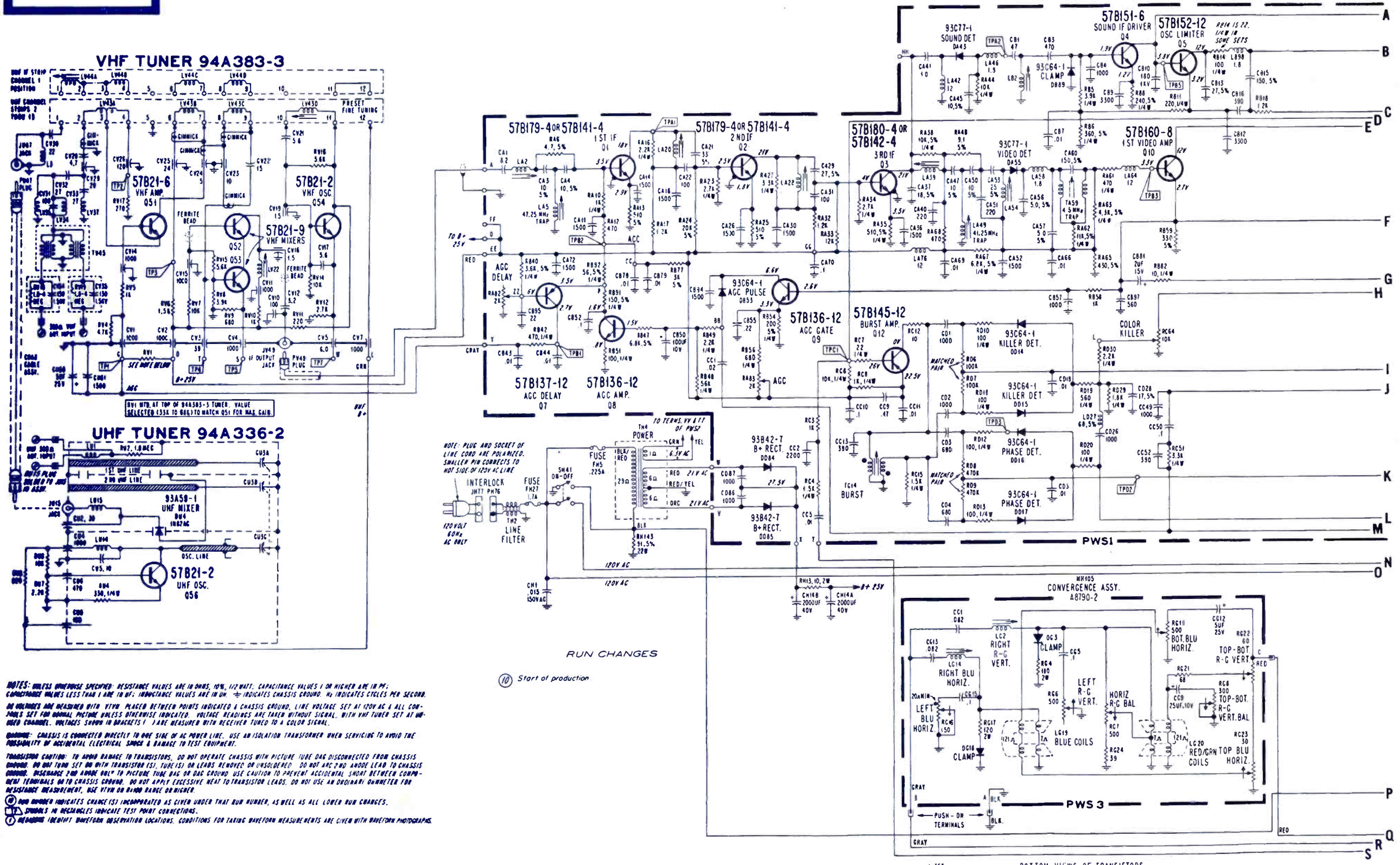




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ADMIRAL
Color-TV Chassis
12K18

ADMIRAL
Color-TV Chassis
T15K10



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. Hz 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 AT UNUSED CHANNEL. VOLTAGES SHOWN IN BRACKETS ( ) ARE MEASURED WITH RECEIVER TUNED TO A COLOR SIGNAL.

CAUTION: 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.

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 OR RX100 RANGE OR HIGHER.

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

SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

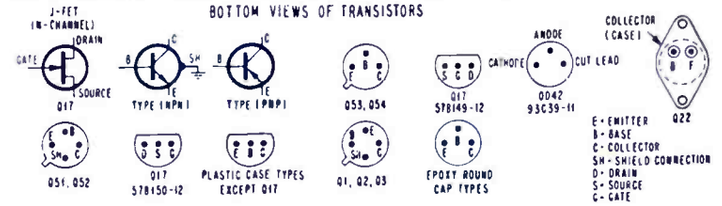
(!) INDICATES BRIGHT WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOGRAPHS.

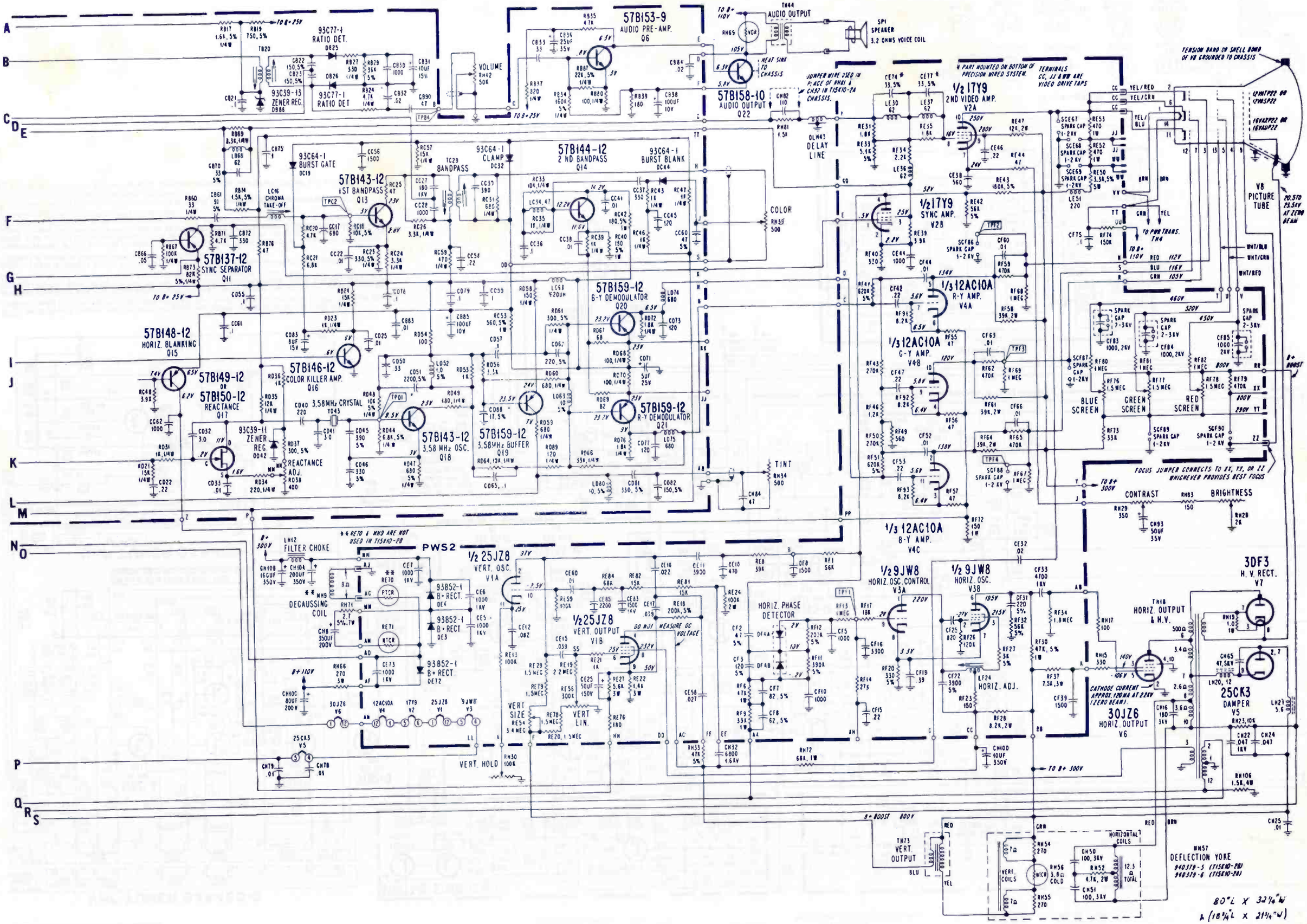
RUN CHANGES

(10) Start of production

SYMBOL	DESCRIPTION	PART NO.
RA82	2K AGC delay	75A101-31
RA83	2K AGC control	75A101-31
RC64	10K color killer control	75A101-18
RD38	400Ω reactance control	75A101-35
RE54	vert lin	
RE55	green drive triple cont	75A107-4
RE56	blue drive	
RE70	positive temp cof	61A52-3
RE71	negative temp cof	61A57-6
RH28	2000Ω brightness cont	75A140-1
RH29	350Ω contrast cont	75A140-3
RH30	100K vert hold cont	75A140-2
RH34	500Ω slide tint cont	75A141-9
RH39	500Ω color slide cont	75A141-9
ZE23	vert integrator	63A6-29
CH10A	200μf, 350v	
CH10B	160μf, 350v	67A15-403
CH10C	80μf, 350v	
CH10D	10μf, 350v	
LB2	4.5MHz coil	72A317-1
LC16	chroma input coil	72A329-1
LC63	3.58MHz SR coil	73A55-48
LF24	horiz hold cont	94A351-1
TB20	ratio xformer	72A318-1
TC14	burst xformer	72A325-3
TC29	bandpass xformer	72A327-1
TH2	line choke	73A31-16
TH4	power xformer	80A108-13
TH18	horiz output xformer	79A158-2
TH44	audio output xformer	79A141-1
TH73	vert output xformer	79A165-1

BOTTOM VIEWS OF TRANSISTORS

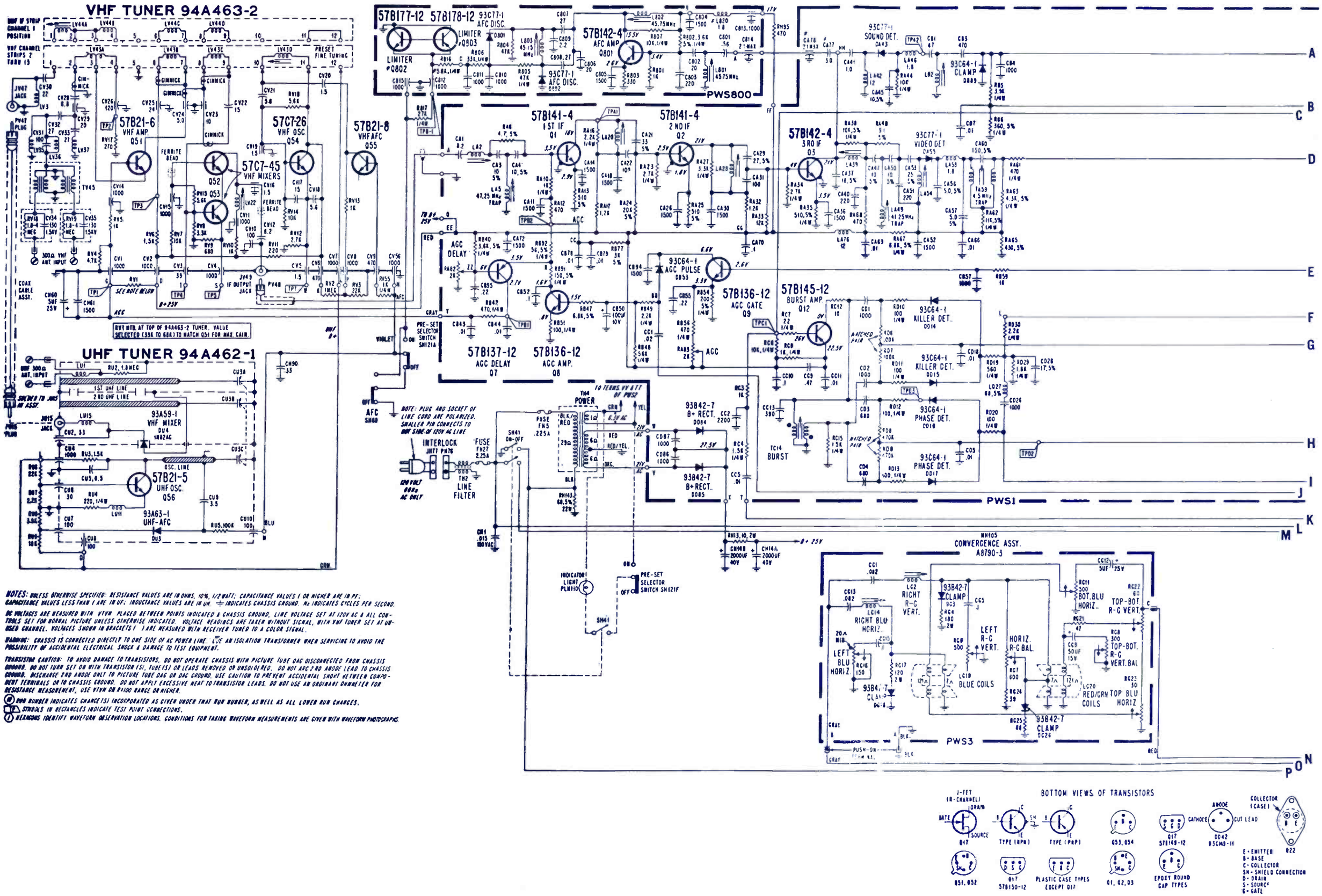



57B153-9
AUDIO PRE-AMP.
Q6
57B158-10
AUDIO OUTPUT
Q22
TH44
AUDIO OUTPUT
SP1
SPEAKER
3.2 OHMS VOICE COIL
VOLUME
RH42
50K
93C77-1
RATIO DET.
93C39-13
ZENER REG.
93C77-1
RATIO DET
JUMPER WIRE USED IN PLACE OF RH81 & CH92 IN T15K10-PA CHASSIS.
DELAY LINE
1/2 17Y9
2ND VIDEO AMP.
V2A
1/2 17Y9
SYNC AMP.
V2B
1/3 12AC10A
R-Y AMP.
V4A
1/3 12AC10A
G-Y AMP.
V4B
1/3 12AC10A
B-Y AMP.
V4C
V8
PICTURE TUBE
BLUE SCREEN
GREEN SCREEN
RED SCREEN
CONTRAST
BRIGHTNESS
57B144-12
2ND BANDPASS
Q14
57B143-12
1ST BANDPASS
Q13
93C64-1
BURST GATE
93C64-1
CLAMP
93C64-1
BURST BLANK
57B137-12
SYNC SEPARATOR
Q11
57B148-12
HORIZ. BLANKING
Q15
57B149-12
OR
57B150-12
REACTANCE
Q17
57B146-12
COLOR KILLER AMP.
Q16
57B143-12
3.58 MHz OSC.
Q18
57B159-12
3.58MHz BUFFER
Q19
57B159-12
G-Y DEMODULATOR
Q20
57B159-12
R-Y DEMODULATOR
Q21
COLOR
TINT
93C39-11
ZENER REG.
REACTANCE ADJ.
LH12
FILTER CHOKE
PWS2
1/2 25JZ8
VERT. OSC.
V1A
1/2 25JZ8
VERT. OUTPUT
V1B
VERT SIZE
VERT LIN.
VERT. HOLD
HORIZ. PHASE DETECTOR
1/2 9JW8
HORIZ. OSC. CONTROL
V3A
1/2 9JW8
HORIZ. OSC.
V3B
TH18
HORIZ. OUTPUT & H.V.
3DF3
H. V. RECT.
V7
25CK3
DAMPER
V5
30JZ6
HORIZ. OUTPUT
V6
LF24
HORIZ. ADJ.
DEGAUSSING COIL
93B52-1
B+ RECT.
DE4
93B52-1
B+ RECT.
DE3
93B52-1
B+ RECT.
DE72
TH73
VERT. OUTPUT
WH57
DEFLECTION YOKE
940319-5 (T15K10-PB)
940319-6 (T15K10-PA)
80°L X 32¼"W
& (18¾"L X 21¼"W)
DELAY LINE
TENSION BAND OR SHELL BOND OF V8 GROUNDED TO CHASSIS
12VM1P22 OR 12VM5P22
16VA2P22 OR 16VA4P22
20.5TO 25.5KV AT ZERO BEAM
FOCUS JUMPER CONNECTS TO XX, YY, OR ZZ WHICHEVER PROVIDES BEST FOCUS
TERMINALS CC, JJ & WW ARE VIDEO DRIVE TAPS
* PART MOUNTED ON BOTTOM OF PRECISION WIRED SYSTEM.
** RE70 & WH9 ARE NOT USED IN T15K10-PB
TO B+ 300V
TO B+ 800V
B+ BOOST 800V
TO B+ 1100V
TO PWR TRANS. TH4
CATHODE CURRENT APPROX. 120MA AT 22KV (ZERO BEAM).
ADMIRAL
Color-TV Chassis
T15K10

ADMIRAL

Color TV Chassis
T41K10, T42K10

SYMBOL	DESCRIPTION	ADMIRAL PART NO.
RA82	2K AG Delay	75A101-31
RA83	2K AGC Control	75A101-31
RC64	10K Color Killer Control	75A101-18
RD38	400Ω, Reactance Control	75A101-35
RE54	Vertical Size Control	
RE55	Vertical Hold	Triple Cont. 75A95-18
RE56	Vertical Line Cont., 300K	
RH28	2K, Brightness Control	75A140-25
RH29	350Ω, Contrast Control	75A140-26
RH34	500Ω, Side Tint Control	75A140-17
RH39	500Ω, Color Slide Control	75A140-18
RH39	Dual Control-Contrast & Color (T43K10-1A)	75A194-2
RH39	Dual Control-Contrast & Color (T42K10-1A)	75A194-3
RH42	50K, Volume On/Off Control	75A140-24
RH69	Voltage Dependent Resistor	61A46-7
RH103	Color Control, 1K, 20%, Preset	75A135-52
RH104	Tint Control 500K, 20%, Preset	75A135-51
RH117	Preset Contrast Control, 350Ω	75A135-54
RH118	Preset Brightness Control, 2K	75A135-53
RH125	High Voltage adj 5 M, Control	75A135-57
RH128	VDR	61A46-15
RH132	VDR	61A46-15
RH133	VDR	61A46-15



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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.

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.

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 OR R100 RANGE OR HIGHER.

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

△ SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

⓪ HEXAGONS IDENTIFY WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOGRAPHS.

CH10A—300 μf, 350V CH10B—300 μf, 350V CH10C—80 μf, 350V	Electrolytic	67A15-415
CH10D—10 μf, 350V		
LC16—Chroma Input Coil		.72A329-1
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
TH2—Line Choke		.73A31-16
TH4—Power xformer (T41K10-1A, T41K10-1B)		.80A108-13
TH4—Power xformer (T43K10-1A, T42K10-1A)		.80A108-14
TH18—Horiz. Output xformer (T41K10-1A, T43K10-1A, T42K10-1A)		.79A169-1
TH18—Horiz. Output xformer (T41K10-1B)		.79A169-2
TH44—Audio Output xformer (T41K10-1A, T41K10-1B)		.79A121-1
TH44—Audio Output xformer (T43K10-1A, T42K10-1A)		.79A141-4
TH73—Vertical Output Xformer		.79A165-1
FH5—.225 a Fuse		.84A28-12
FH27—2.25 a Fuse		.84A28-16
MH140—Tripler, HV		.93A91-3

PIX TUBE SIZE	PICTURE TUBE TYPE	USED IN CHASSIS
13V	13VAEP22	T41K10-1B, T25K10-1B
17V	17VASP22 OR 17VAWP22	T41K10-1A, T25K10-1A
18V	18VBSP22 OR 18VBRP22	T42K10-1A

SAFETY NOTICE

THE DESIGN OF THIS RECEIVER CONTAINS MANY CIRCUITS AND COMPONENTS INCLUDED SPECIFICALLY FOR SAFETY PURPOSES. FOR CONTINUED PROTECTION, NO CHANGES SHOULD BE MADE TO THE ORIGINAL DESIGN. REPLACEMENT PARTS MUST BE IDENTICAL TO THOSE USED IN THE ORIGINAL CIRCUIT. SERVICE SHOULD BE PERFORMED BY QUALIFIED PERSONNEL ONLY.

ADMIRAL
Color TV Chassis
T41K10, T42K10

ADMIRAL
Color TV Chassis
M24

SYMBOL	DESCRIPTION	ADMIRAL PART NO.
C101A,B	—350 µf/200v, 350 µf/200v	
C,D	—150 µf/100v, 500 µf/100v electrolytic	67A15-421
R117	—15M focus control	75A108-8
L100	—choke AC line	73A31-22
T100	—power xformer	80A124-1
T101	—filament xformer	80A119-2
T102	—audio xformer	79A171-3
T103	—horiz output xformer	79A178-1
L206	—coil 41.25MHz trap	72A316-12
T200	—xformer 4.5MHz trap	72A216-10
R314	—400 Ω AGC adj control	75A101-53
R331	—10 Ω AGC delay adj control	75A101-25
R401	—25K tilt adj control	75A101-26
R408	—10K color killer control	75A101-25
R418	—20K ACC adj control	75A101-46
L403	—coil chroma take off coil	73A135-3
T400	—xformer chroma bandpass	73A134-2
L500	—coil sound quad xformer	72A329-1
T500	—xformer 4.5MHz	72A318-6
T623	—100K, vert size control	75A101-60
R719	—200K, brightness limiter control	75A101-28
L800	—coil horiz osc lock	94A351-3
T800	—xformer horiz drive	79A167-2

RUN CHANGES

START OF PRODUCTION.

TO REDUCE PEAKING AT LOW CONTRAST.

SAFETY NOTICE

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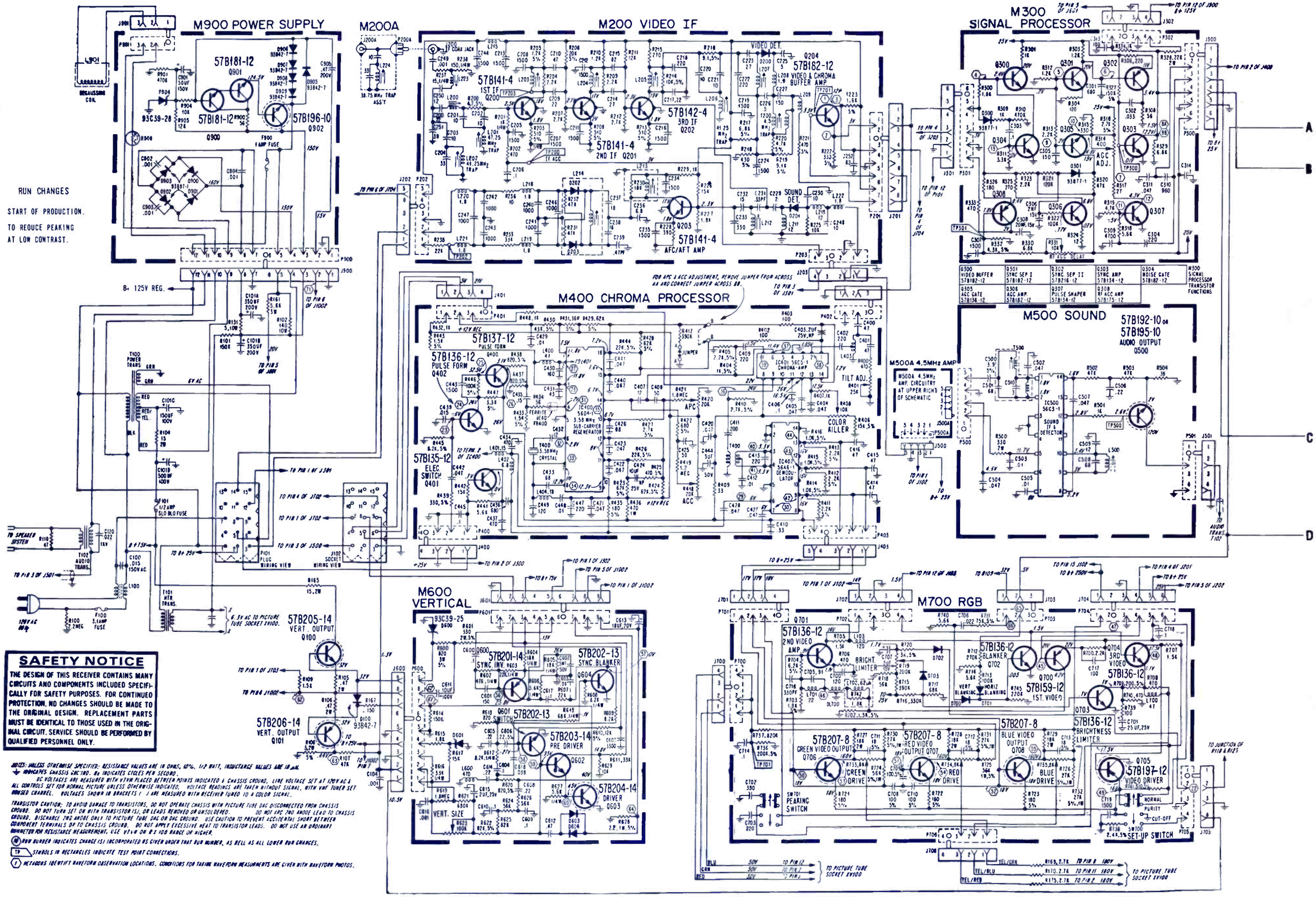
NOTES: UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, 10%, 1/2 WATT, INDUCTANCE VALUES ARE IN mH.
⏚ INDICATES CHASSIS VOLTAGE. Hz INDICATES CYCLES PER SECOND.
DC VOLTAGES ARE MEASURED WITH VTVM PLACED BETWEEN POINTS INDICATED & CHASSIS GROUND. LINE VOLTAGE SET AT 120V AC & ALL CONTROLS SET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

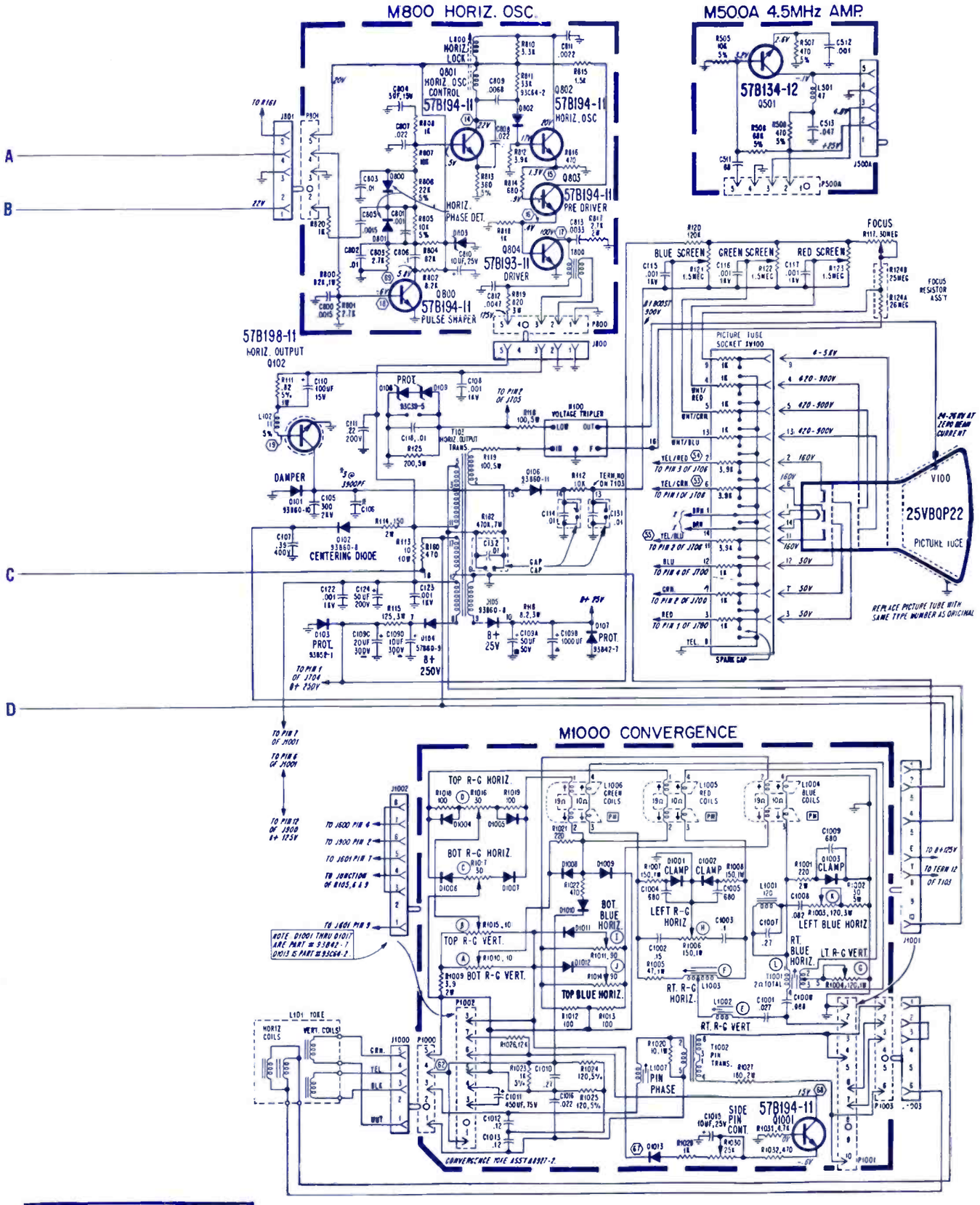
TRANSISTOR CAUTION: TO AVOID DAMAGE TO TRANSISTORS, DO NOT OPERATE CHASSIS WITH PICTURE TUBE DAC DISCONNECTED FROM CHASSIS GROUND. DO NOT TURN SET ON WITH TRANSISTOR IS), OR LEADS REMOVED OR UNSOLDERED. DO NOT ARC 2ND ANODE LEAD TO CHASSIS GROUND. DISCHARGE 2ND ANODE ONLY TO PICTURE TUBE DAC OR DAC GROUND. 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 OHMMETER FOR RESISTANCE MEASUREMENT. USE VTVM ON R X 100 RANGE OR HIGHER.

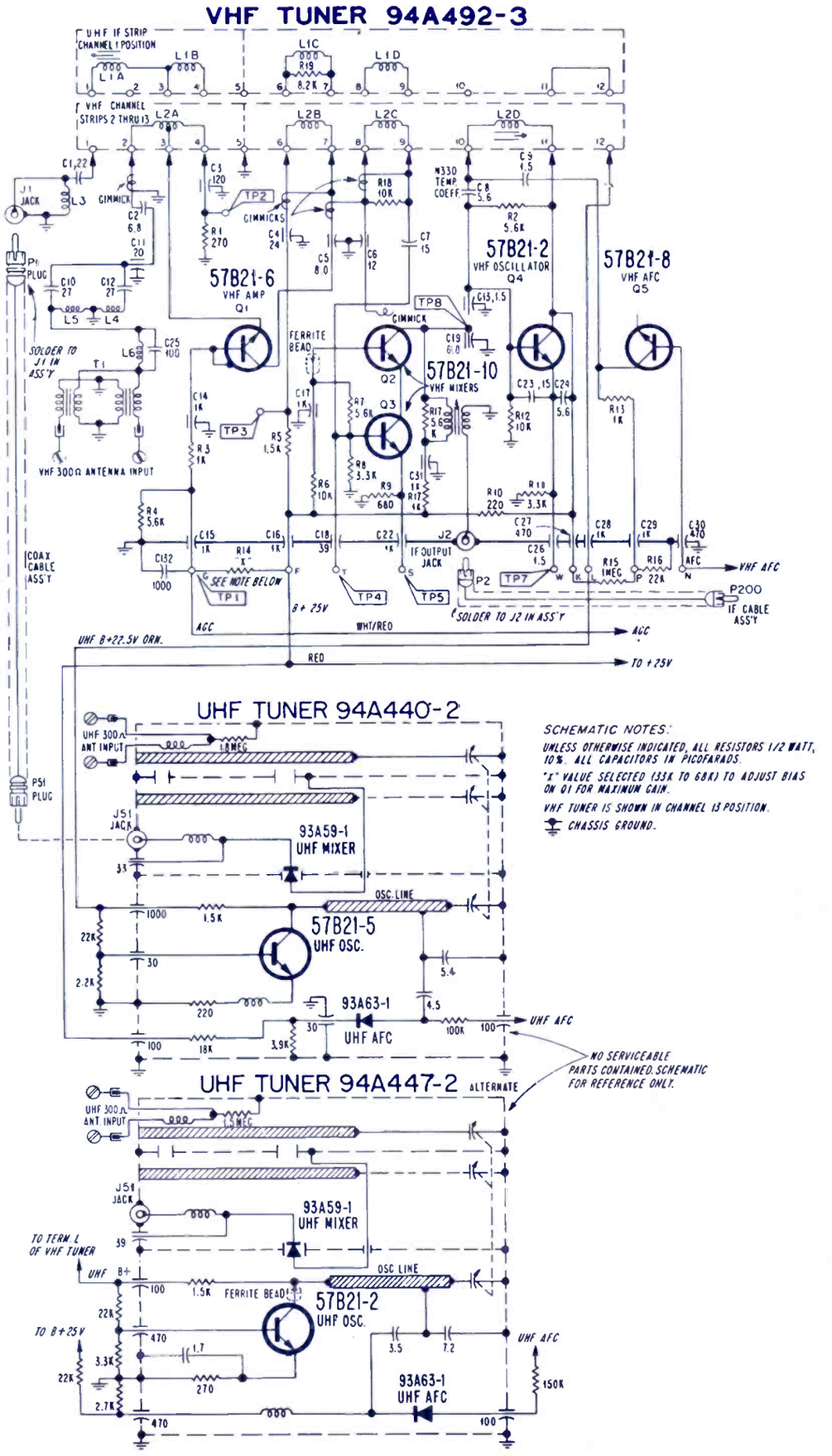
(M) RUN NUMBER INDICATES CHANGE IS) INCORPORATED AS GIVEN UNDER THAT RUN NUMBER, AS WELL AS ALL LOWER RUN CHANGES.

TP SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

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

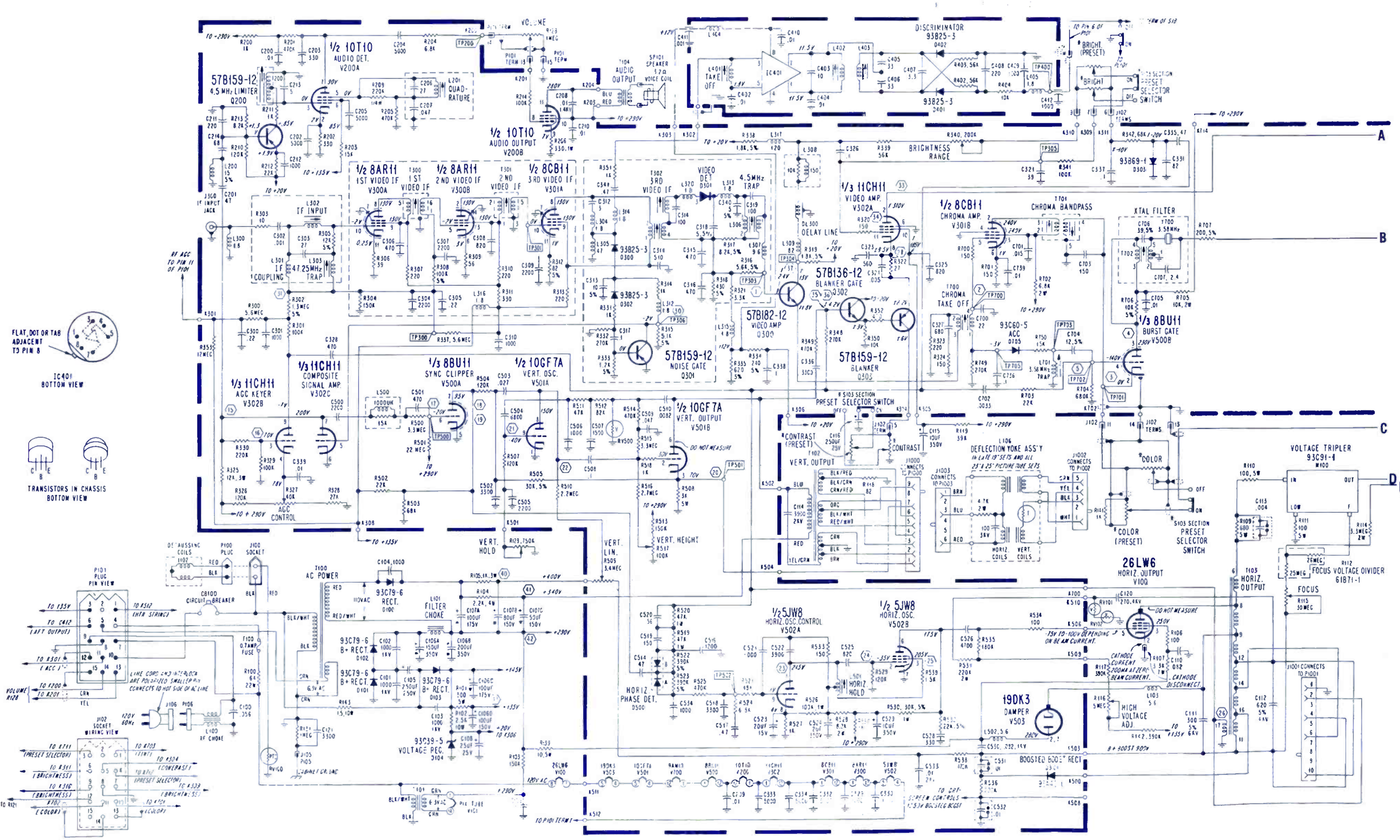


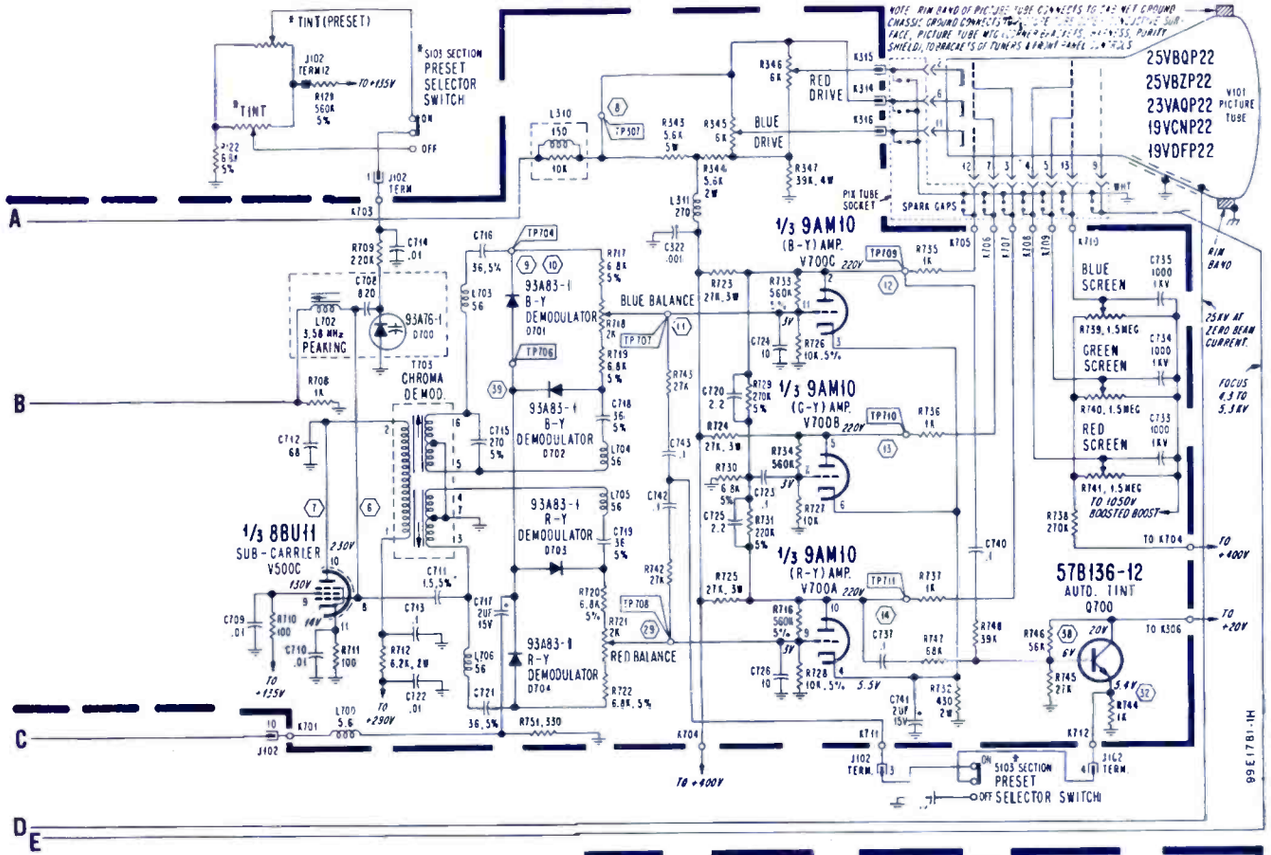

M800 HORIZ. OSC.
M500A 4.5MHz AMP.
578134-12
Q501
57B194-11
HORIZ. OSC. CONTROL
HORIZ. OSC.
PRE DRIVER
PHASE DET.
57B193-11
DRIVER
PULSE SHAPER
57B198-11
HORIZ. OUTPUT
Q102
PROT.
DAMPER
CENTERING DIODE
VOLTAGE TRIPLER
TRANS.
BLUE SCREEN
GREEN SCREEN
RED SCREEN
FOCUS
FOCUS RESISTOR ASS'Y
PICTURE TUBE SOCKET 3W100
SPARK GAP
V100
25VBQP22
PICTURE TUBE
REPLACE PICTURE TUBE WITH SAME TYPE NUMBER AS ORIGINAL
M1000 CONVERGENCE
TOP R-G HORIZ.
BOT R-G HORIZ.
TOP R-G VERT.
BOT R-G VERT.
TOP BLUE HORIZ.
BOT. BLUE HORIZ.
LEFT R-G HORIZ
RT. R-G HORIZ.
LEFT BLUE HORIZ
RT. BLUE HORIZ.
LT. R-G VERT.
RT. R-G VERT
CLAMP
578194-11
SIDE PIN CONT.
PIN PHASE
CONVERGENCE YOKE ASSY 80977-2
A
B
C
D

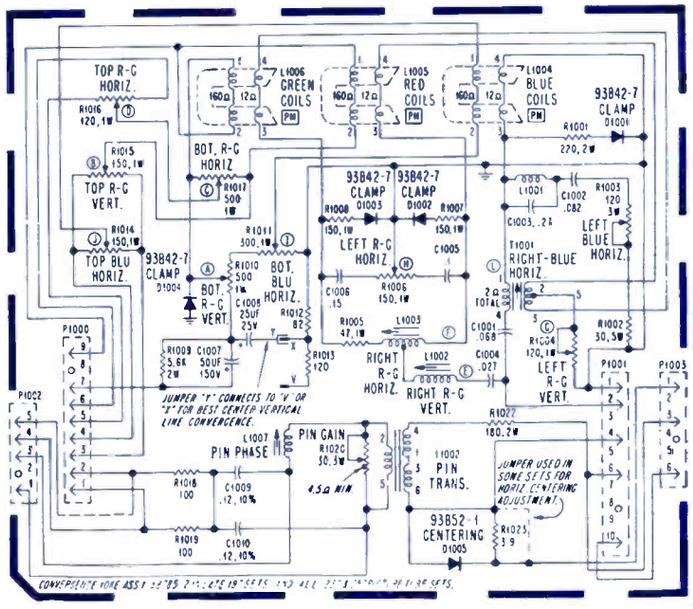

VHF TUNER 94A492-3
UHF IF STRIP CHANNEL 1 POSITION
VHF CHANNEL STRIPS 2 THRU 13
57B21-6
VHF AMP
Q1
57B21-2
VHF OSCILLATOR
Q4
57B21-8
VHF AFC
Q5
57B21-10
VHF MIXERS
Q2 Q3
VHF 300Ω ANTENNA INPUT
COAX CABLE ASS'Y
IF OUTPUT JACK
SOLDER TO J2 IN ASS'Y
IF CABLE ASS'Y
VHF AFC
AGC
B+ 25V
WHT/RED
UHF B+22.5V ORN.
TO +25V
UHF TUNER 94A440-2
UHF 300Ω ANT INPUT
93A59-1
UHF MIXER
57B21-5
UHF OSC.
93A63-1
UHF AFC
OSC. LINE
UHF AFC
NO SERVICEABLE PARTS CONTAINED. SCHEMATIC FOR REFERENCE ONLY.
UHF TUNER 94A447-2 ALTERNATE
UHF 300Ω ANT. INPUT
93A59-1
UHF MIXER
TO TERM L OF VHF TUNER
57B21-2
UHF OSC.
93A63-1
UHF AFC
SCHEMATIC NOTES:
UNLESS OTHERWISE INDICATED, ALL RESISTORS 1/2 WATT, 10%. ALL CAPACITORS IN PICOFARADS.
"X" VALUE SELECTED (33K TO 68K) TO ADJUST BIAS ON Q1 FOR MAXIMUM GAIN.
VHF TUNER IS SHOWN IN CHANNEL 13 POSITION.
CHASSIS GROUND.

ADMIRAL
Color TV Chassis
3K19

SYMBOL	DESCRIPTION	ADMIRAL PART NO.
R112	focus voltage divider	61A71-1
R115	15M focus cont	75A108-8
R116	5.0M high voltage cont	75A135-48
R129	750K vert hold cont	75A135-46
R327	40K AGC cont	75A155-9
R340	200K brite range cont	75A155-10
R509	3.4M vert lin cont	
R517	100K height cont	
R739	1.5M blue screen cont	75A155-1
R740	1.5M green screen cont	75A155-1
R741	1.5M red screen cont	75A155-1
RV 101, 102	VDR	61A46-13
RV500	varistor	61A65-1
C106A	150μf, 250v elect	67A15-412
C106B	200μf, 350v elect	67A15-412
C106C,D	100μf, 175v elect	67A15-412
C107A	100μf, 175v elect	67A15-511
C107B	80μf, 150v elect	67A15-511
C107C	50μf, 150v elect	67A15-511
L100	line choke	73A31-16
L101	filter choke	74A31-1
L201	quad coil	72A366-1
L303	47.25MHz trap	72A359-3
L306	4.5MHz trap	72A367-1
L501	horiz hold coil	94A351-1
L701	3.58 trap	72A414-1
L702	3.58MHz peaking coil	72A364-1
T100	power xformer	80A116-3
T101	CRT filament xformer	80A119-1
T102	vert output xformer	79A153-4
T103	horiz output xformer	79A164-3
T104	audio output xformer	79A88-7
T700	chroma take-off xformer	72A368-1
T701	chroma bandpass xformer	72A358-1
T703	chroma demod xformer	72A357-1
M100	high voltage tripler	93A91-1
CB100	2.6a circuit breaker	84A17-15
Y700	3.58MHz crystal	93A74-1

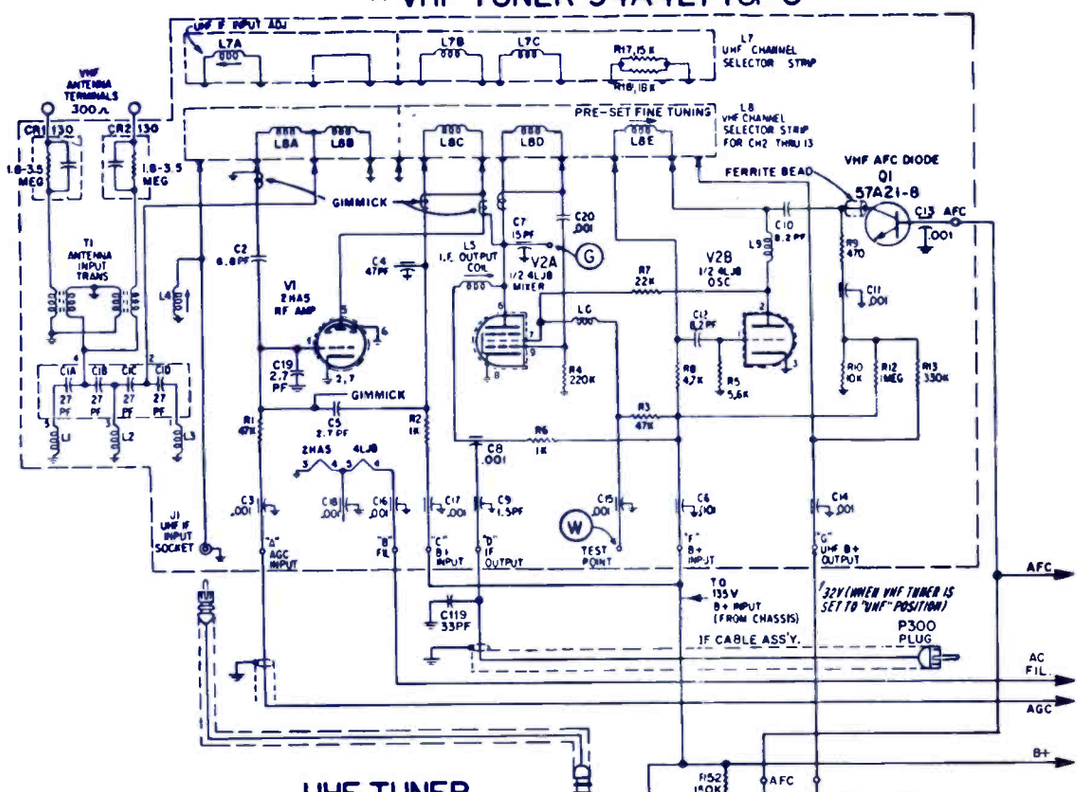

½ 10T10 AUDIO DET. V200A
½ 10T10 AUDIO OUTPUT V200B
57B159-12 4.5 MHz LIMITER Q200
QUAD-RATURE
DISCRIMINATOR 93B25-3
BRIGHTNESS RANGE
½ 8AR11 1ST VIDEO IF V300A
½ 8AR11 2ND VIDEO IF V300B
½ 8CB11 3RD VIDEO IF V301A
VIDEO DET D301
4.5MHz TRAP
1/3 11CH11 VIDEO AMP. V302A
½ 8CB11 CHROMA AMP. V301B
CHROMA BANDPASS
XTAL FILTER
IF INPUT
IF COUPLING
47.25MHz TRAP
DELAY LINE
57B136-12 BLANKER GATE
578182-12 VIDEO AMP Q300
578159-12 NOISE GATE Q301
578159-12 BLANKER Q305
93C60-5 ACC D705
1/3 8BU11 BURST GATE V500B
1/3 11CH11 AGC KEYER V302B
1/3 11CH11 COMPOSITE SIGNAL AMP. V302C
1/3 8BU11 SYNC CLIPPER V500A
½ 10GF7A VERT. OSC. V501A
½ 10GF7A VERT. OUTPUT V501B
PRESET SELECTOR SWITCH
CONTRAST (PRESET)
VERT. OUTPUT
DEFLECTION YOKE ASS'Y
COLOR (PRESET)
VOLTAGE TRIPLER 93C91-1
AC POWER
93C79-6 RECT. D100
FILTER CHOKE L101
93C79-6 B+ RECT. D102
93C79-6 B+ RECT. D101
93C79-6 B+ RECT. D103
93C39-5 VOLTAGE REG. D104
½ 5JW8 HORIZ. OSC. CONTROL V502A
½ 5JW8 HORIZ. OSC. V502B
HORIZ. PHASE DET. D500
26LW6 HORIZ. OUTPUT V100
19DK3 DAMPER V503
BOOSTED BOOST RECT.
FOCUS VOLTAGE DIVIDER 61B71-1
VERT. HOLD
VERT. LIN.
VERT. HEIGHT
AGC CONTROL
HORIZ. HOLD
HORIZ. OUTPUT T103
CIRCUIT BREAKER CB100
RF CHOKE L100
FUSE F100 0.7AMP
PIN VIEW
SOCKET WIRING VIEW
IC401 BOTTOM VIEW
TRANSISTORS IN CHASSIS BOTTOM VIEW
FLAT, DOT OR TAB ADJACENT TO PIN 8
LINE CORD AND INTERLOCK ARE POLARIZED. SMALLER PIN CONNECTS TO HOT SIDE OF AC LINE
CATHODE CURRENT 200MA AT ZERO BEAM CURRENT.
CATHODE DISCONNECT.
-75V TO -100V DEPENDING ON BEAM CURRENT.
DO NOT MEASURE
HIGH VOLTAGE ADJ.
B+ BOOST 900V
TO CRT SCREEN CONTROLS
TO PIO01 TERM 1
TO P102 TERMS
TO P103 CONNECTS TO P1003
TO P1001 CONNECTS TO P1001
TO P1002 CONNECTS TO P1002
TO P1003 CONNECTS TO P1003
TO P1004 CONNECTS TO P1004
TO P1005 CONNECTS TO P1005
TO P1006 CONNECTS TO P1006
TO P1007 CONNECTS TO P1007
TO P1008 CONNECTS TO P1008
TO



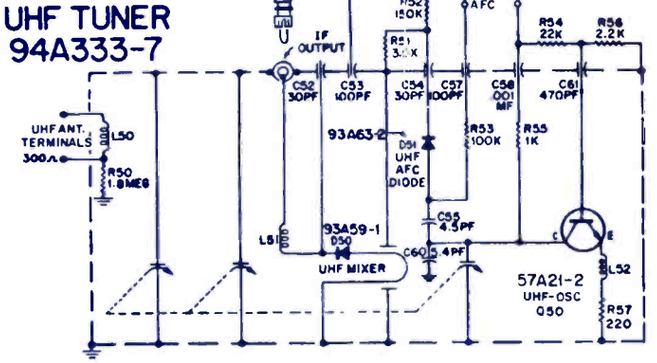


ADMIRAL
Color TV Chassis
3K19

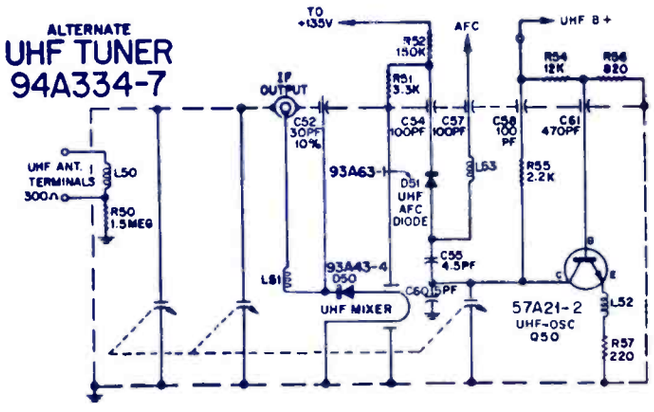
* VHF TUNER 94A421-18-5



UHF TUNER 94A333-7



ALTERNATE UHF TUNER 94A334-7



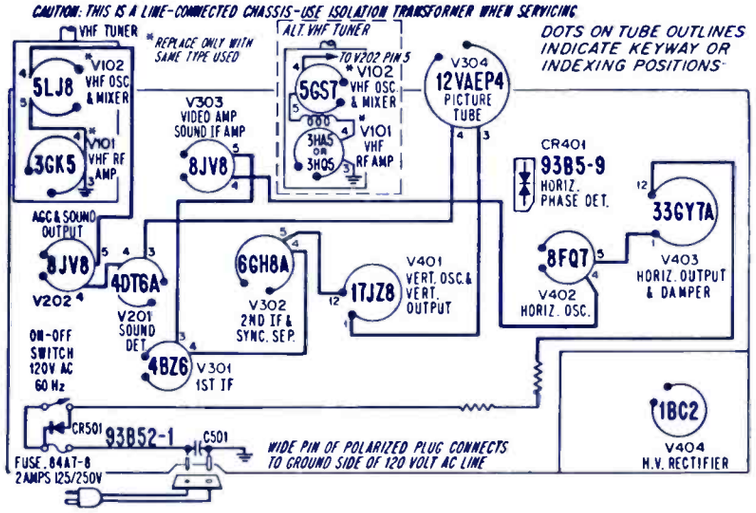
UNLESS OTHERWISE INDICATED: ALL RESISTOR VALUES 1/2 WATT 10%. ALL CAPACITOR VALUES IN MICROFARADS.
CHASSIS GROUND.

* VHF TUNERS ARE NOT ELECTRICALLY INTERCHANGEABLE. REPLACE WITH SAME PART NO. AS ORIGINAL.

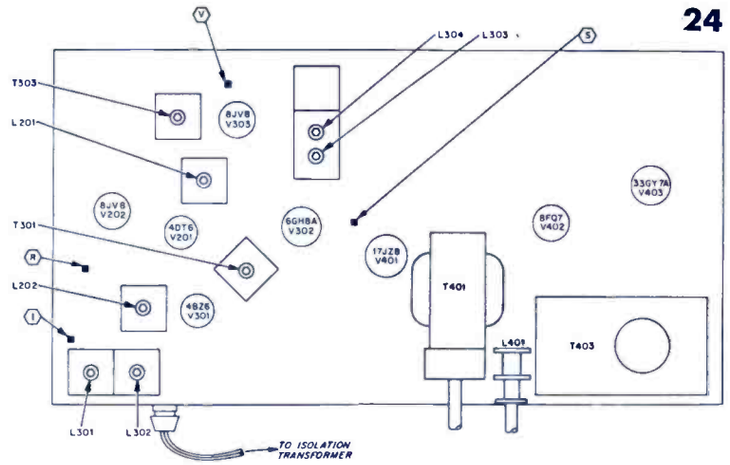
AIRLINE

TV Model
GAI-11253A/B

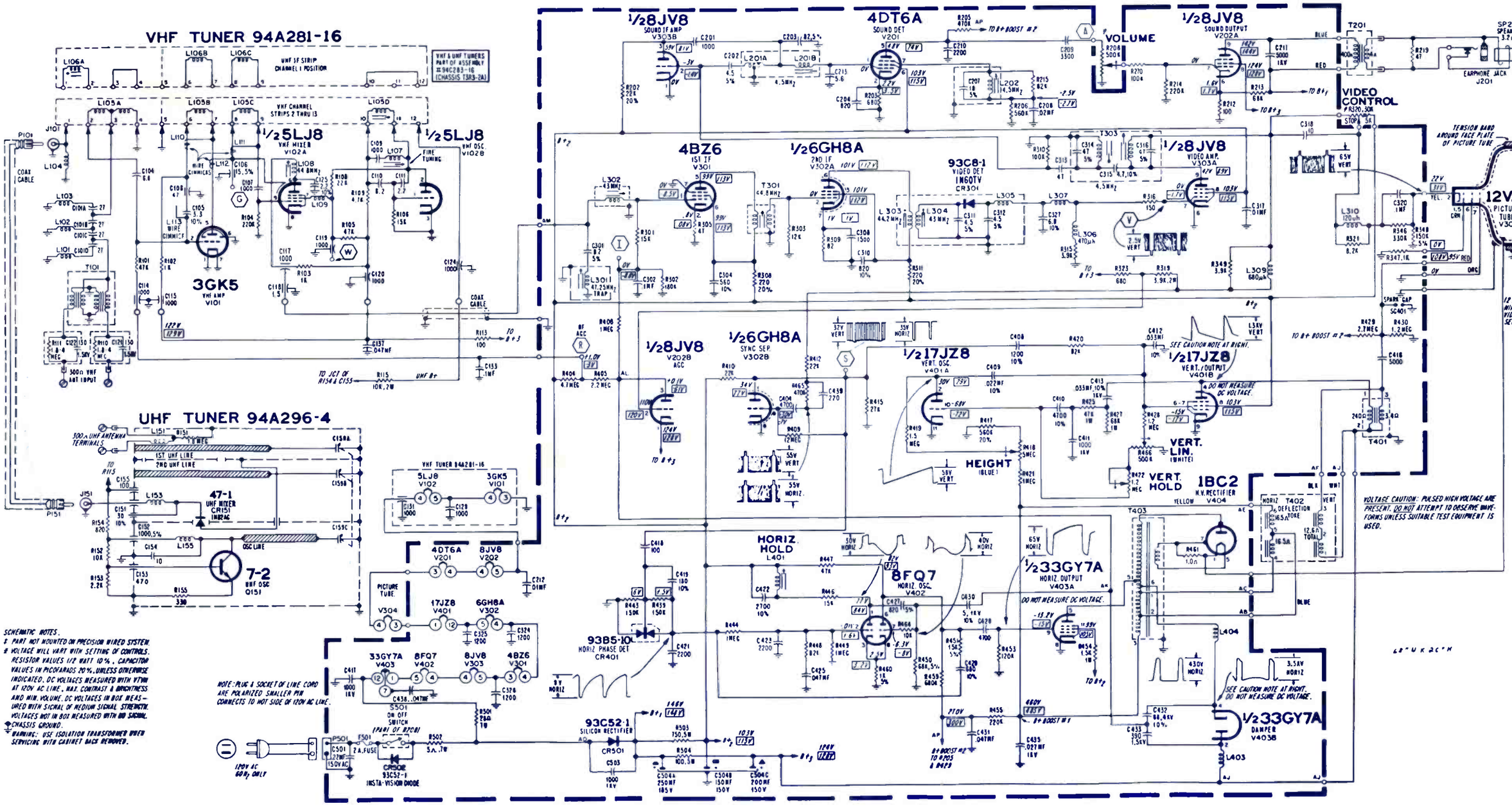
SYMBOL	DESCRIPTION	AIRLINE PART NO.
C504A,B,C	250 μf/165v-150 μf/150v-200 μf/150v electrolytic	67A30-11
R208	500K on/off/volume	75A1-185
R320	30K video	75A112-13
R418	5M, height	75A101-16
R422	1.2M, vert hold	75A100-8
R466	500K, vert lin.	75A101-17
L201A,B	coil, sound IF	72A301-2
L202	coil, quad (includes C207)	72A132-77
L301	coil, 47.25MHz trap	72A296-4
L401	coil, horiz hold	94A17-19
T201	xformer, audio output	79A124-5
T303	xformer, sound take-off, 4.5MHz	72A185-5
T401	xformer, vert output	79A139-4
T402	deflection yoke	94A372-2
T403	xformer, horiz output	79A138-15
CR301	diode, video detector, 1N60	93A8-1
CR401	diode, horiz phase detector	93A5-9
F501	fuse, 2 a (pigtail)	84A7-8

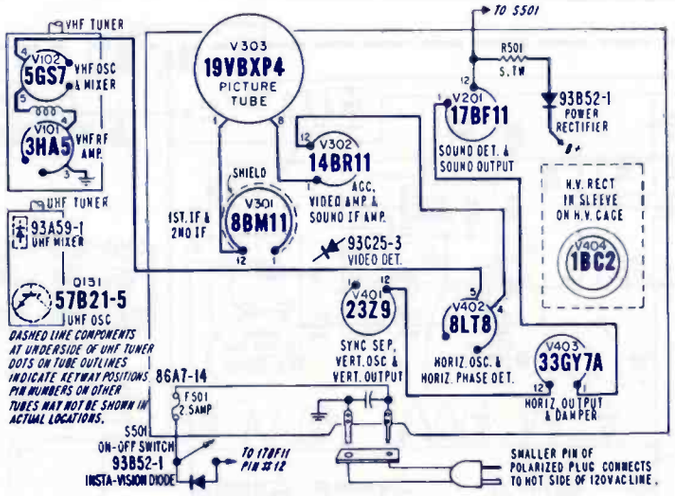


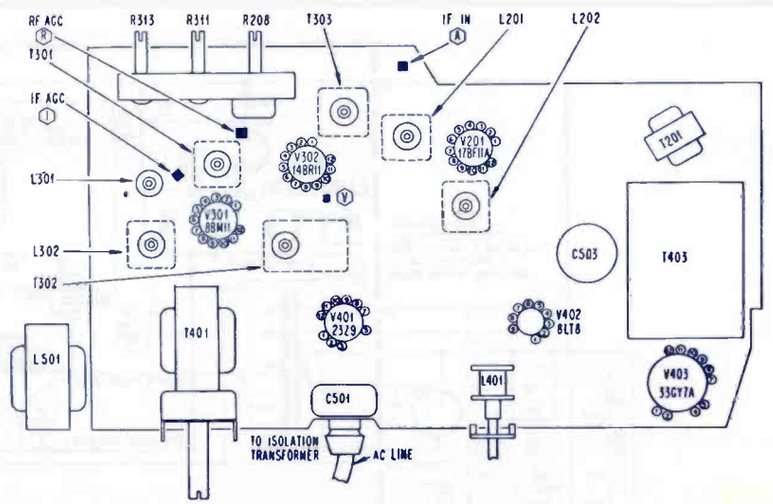
Tube Location Chart

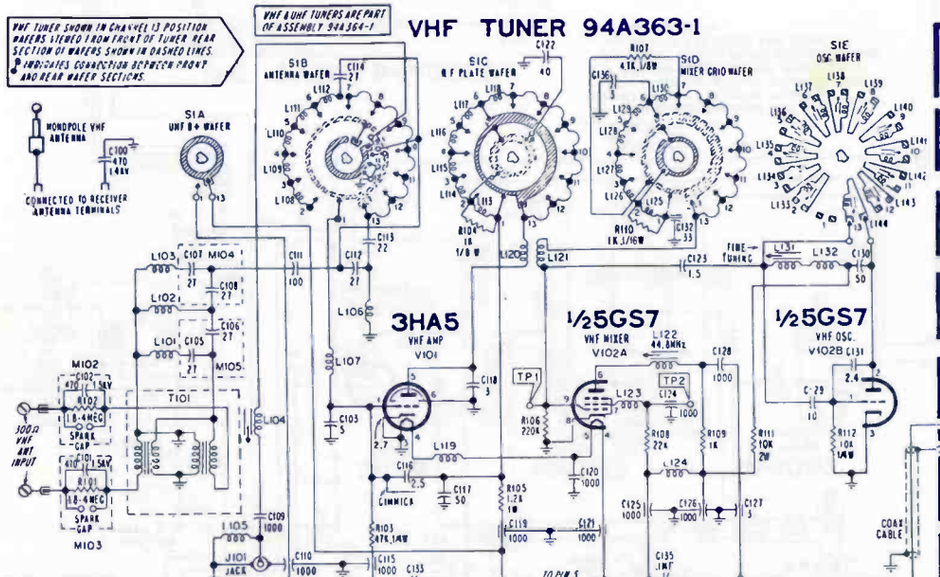


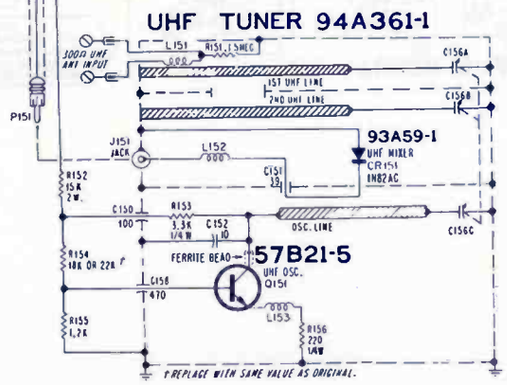
Top View of Chassis Showing Alignment Locations and Test Points

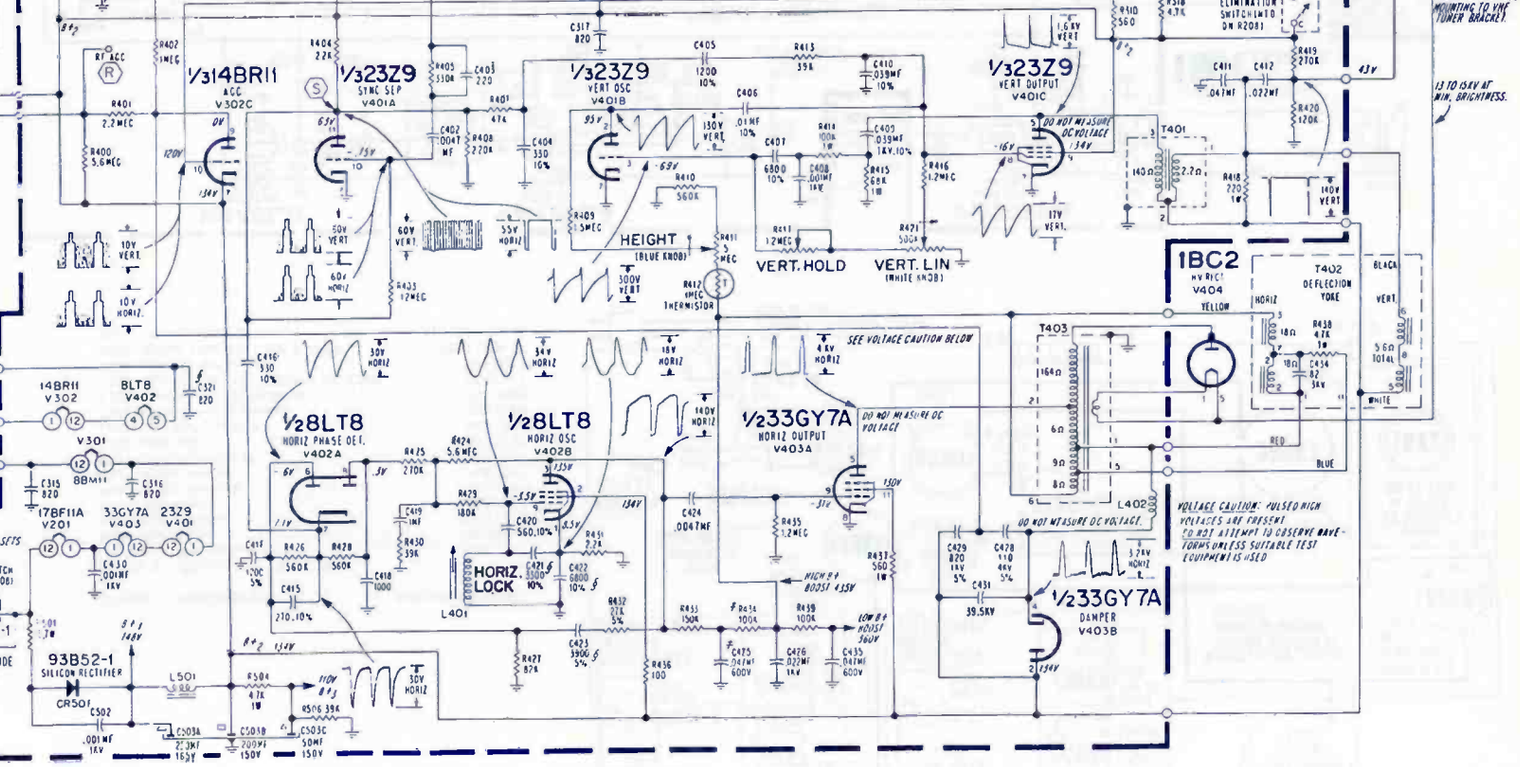












SAFETY NOTICE

THE DESIGN OF THIS RECEIVER CONTAINS MANY CIRCUITS AND COMPONENTS INCLUDED SPECIFICALLY FOR SAFETY PURPOSES. FOR CONTINUED PROTECTION, NO CHANGES SHOULD BE MADE TO THE ORIGINAL DESIGN. REPLACEMENT PARTS MUST BE IDENTICAL TO THOSE USED IN THE ORIGINAL CIRCUIT. SERVICE SHOULD BE PERFORMED BY QUALIFIED PERSONNEL ONLY.

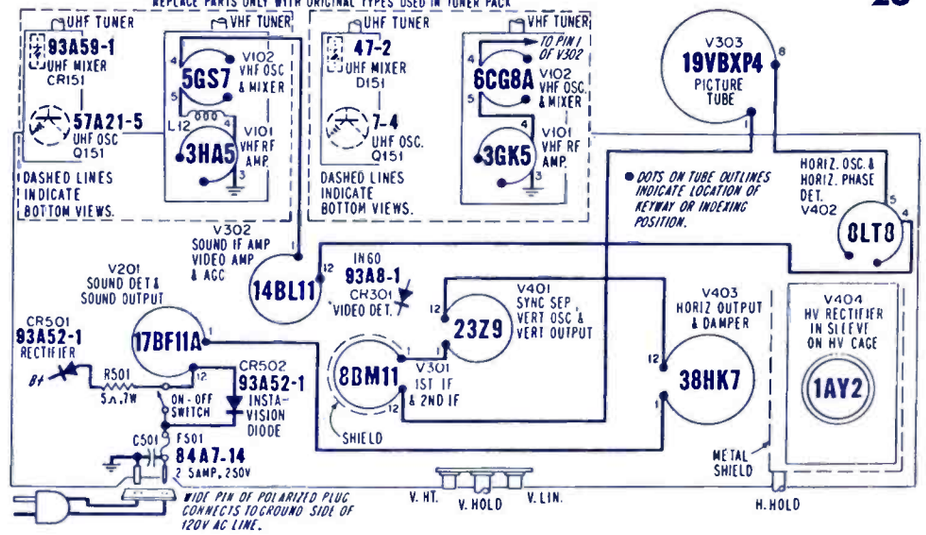
AIRLINE

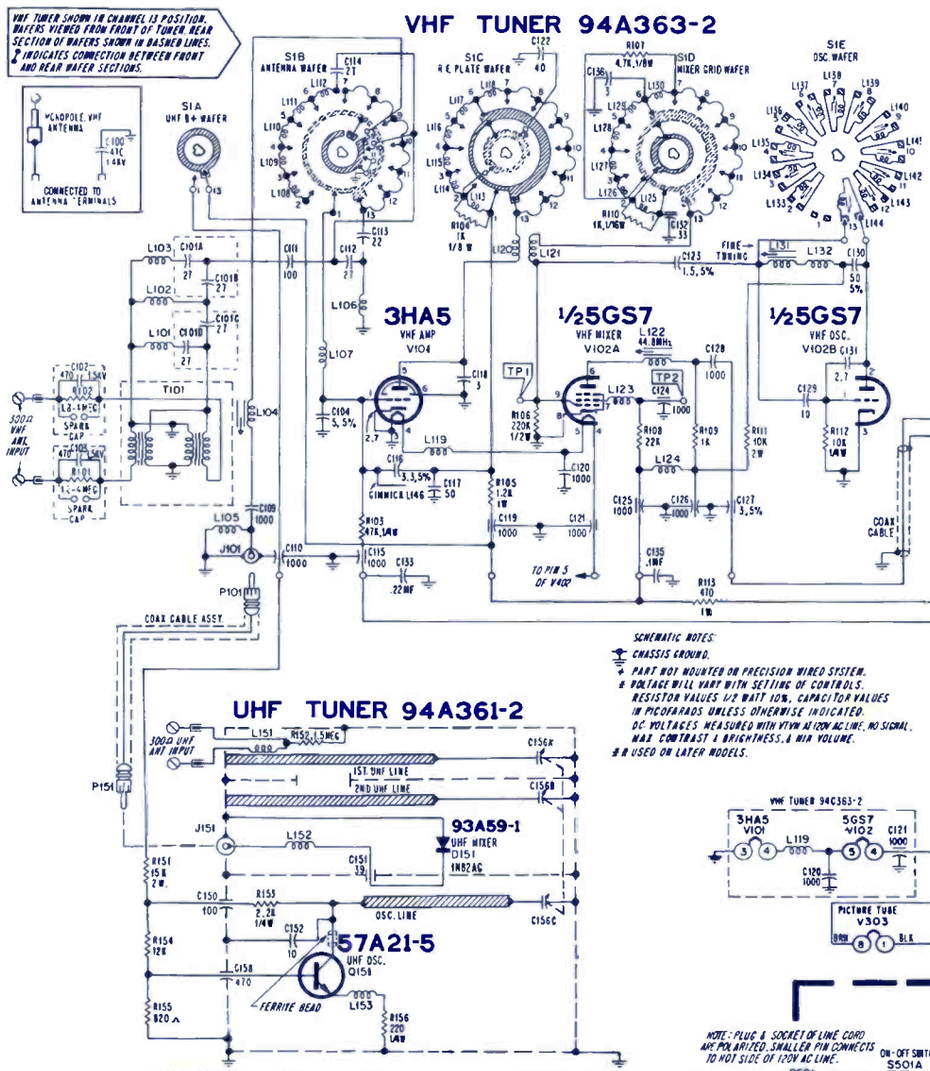
TV Models
GAI-1-13003A/
GAI-1-13063A

AIRLINE

TV Models
GAI-13133C,D

SYMBOL	DESCRIPTION	AIRLINE PART NO.
C503A, B,	–250 µf/165v, 150 µf/160v,	
C	– 200 µf/150v electrolytic	67A30-11
R208	–1M volume	75A149-10
R311	–30K, contrast	75A112-13
R411	–3M, height	75A129-3
R417	–1.2M, vert hold	75A129-3
R421	–500K, vert lin	75A129-3
L201A,B	–coil, sound 1F	72A301-4
L202	–coil, quad	72A132-82
L401	–coil, horiz osc lock	94A17-19
T201	–xformer, audio output	79A124-3
T301	–xformer, 1st 1F, 44.8MHz	72A308-2
T302	–xformer, 2nd 1F, 42.7MHz inc. C306	72A310-1
T401	–xformer, vert output	79A139-5
T402	–deflect yoke inc. C436 & R444	750A1089-12
T403	–xformer, horiz output	79A138-22

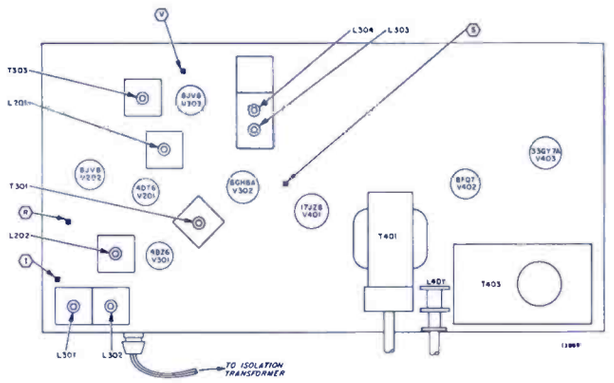




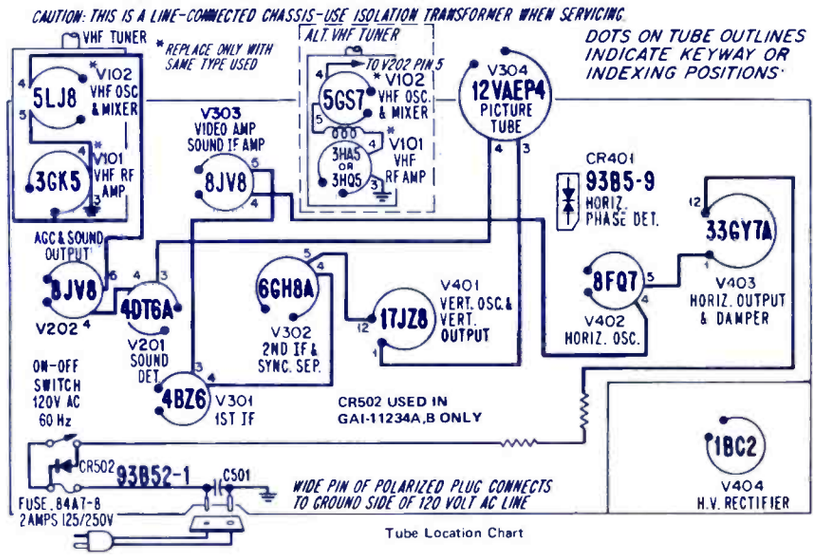
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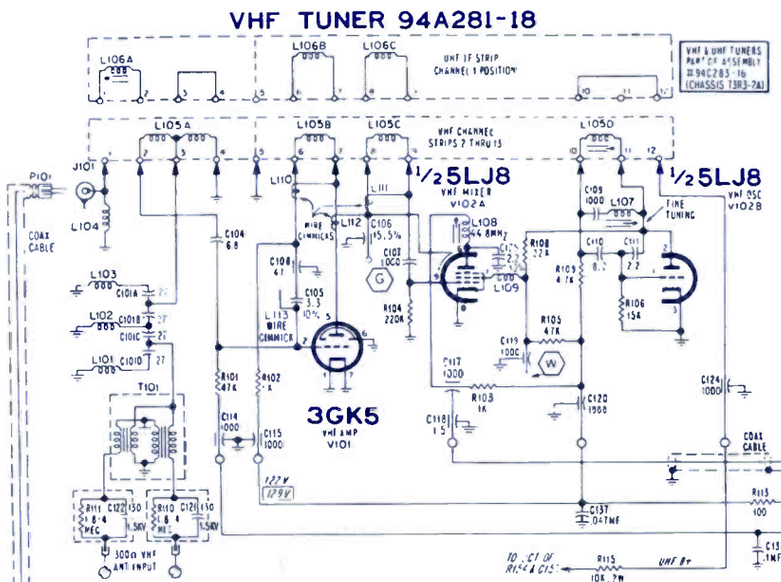
SYMBOL	DESCRIPTION	AIRLINE PART NO.
C504A, B, C	—250 μf/165v, 150 μf/150v, 200 μf, 150v, electrolytic	67A30-11
R208,S501	—500K, on/off, volume	75A1-185
R320	—30K, video	75A112-13
R418	—5M, height	75A101-16
R422	—1.2M, vert hold	75A100-8
R466	—500K, vert lin	75A101-17
L202	—coil, quadrature w/C207	72A132-77
L401	—coil, horiz hold	94A17-19
T201	—xformer, audio output	79A124-5
T303	—xformer, sound take-off 4.5 MHz, w/C315, 314, 316	72A185-5
T401	—xformer, vert output	79A139-4
T402	—deflect yoke	94A372-2
T403	—xformer, horiz output	79A138-1
CR301	—diode, video detector, IN60	93A8-1
CR401	—diode, horiz phase detector	93A5-9

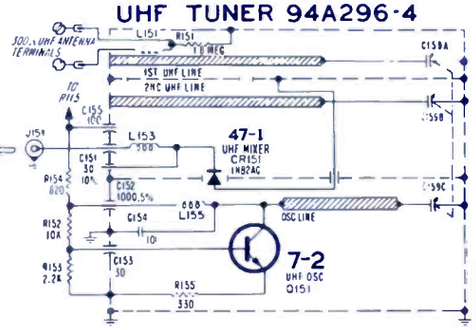


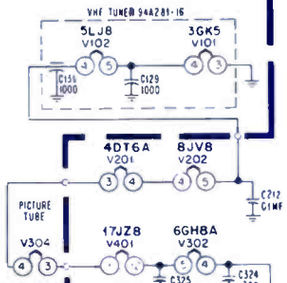
Top View of Chassis Showing Alignment Locations and Test Points

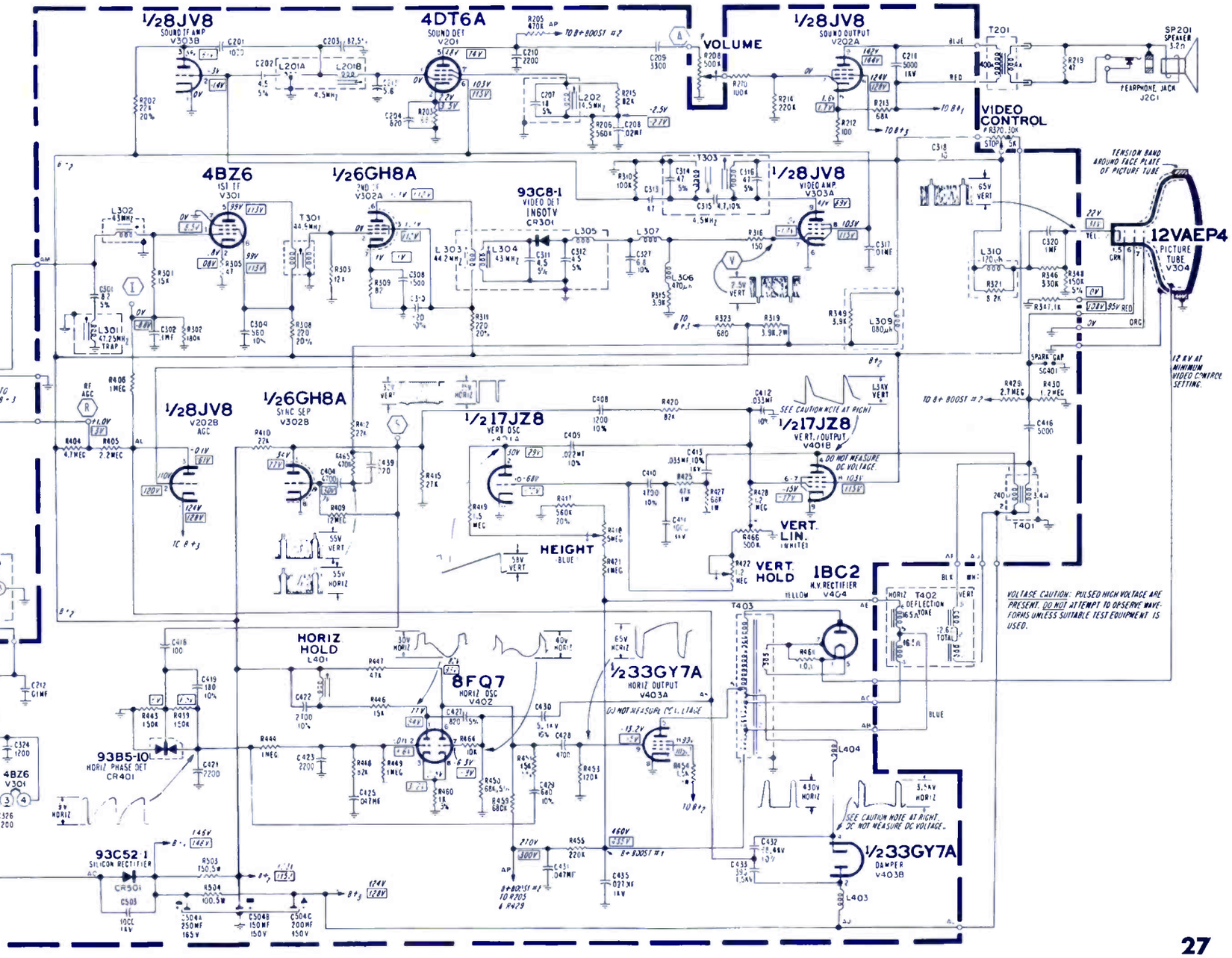


Tube Location Chart









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 MID. 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.
† USEC IN MODEL S CAT 112348.8 ONLY.

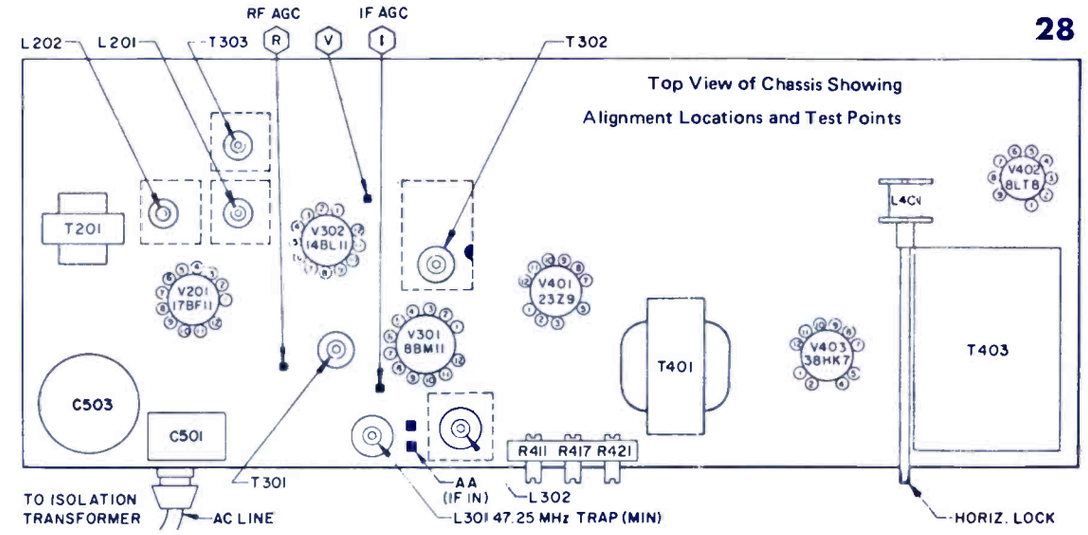
NOTE: PLUG & SOCKET OF LINE CORD ARE POLARIZED. SMALLER PIN CONNECTS TO HOT SIDE OF 120V AC LINE.

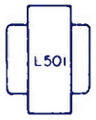
VOLTAGE CAUTION: PULSED HIGH VOLTAGE ARE PRESENT. DO NOT ATTEMPT TO OBSERVE WAVEFORMS UNLESS SUITABLE TEST EQUIPMENT IS USED.

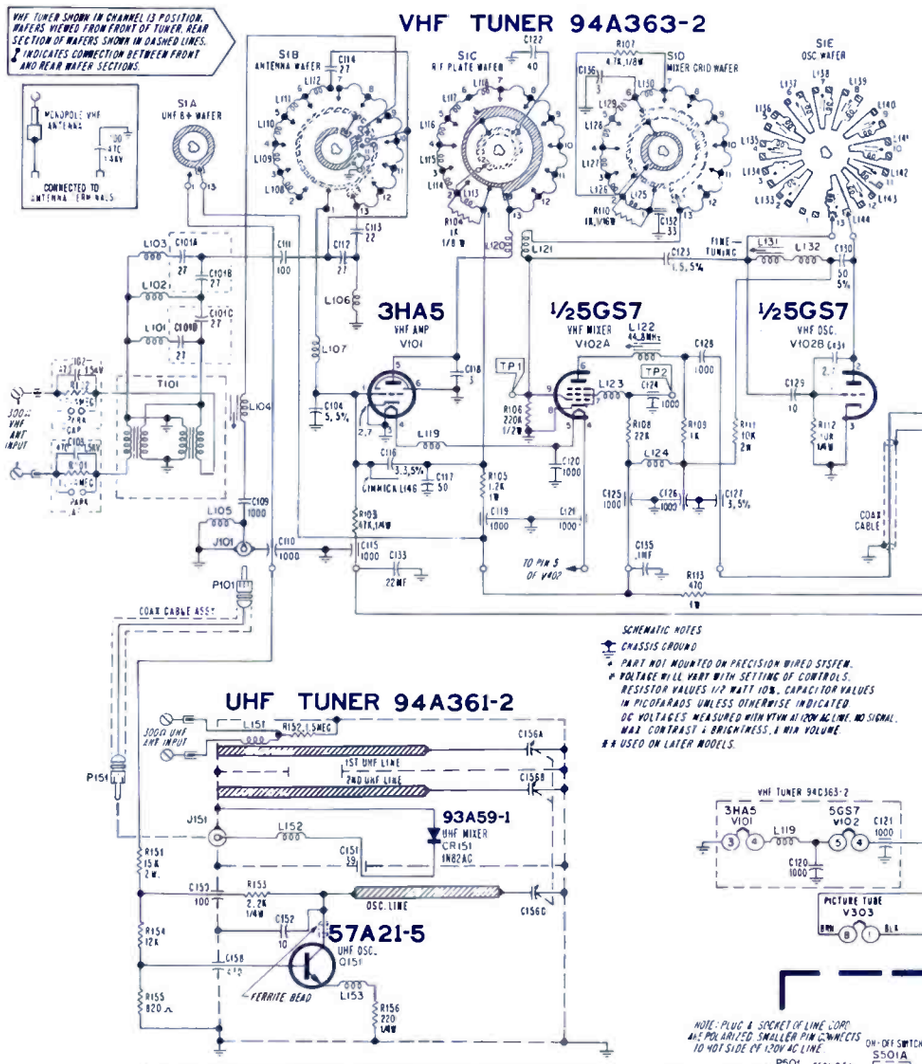
AIRLINE
TV Models
GAI-11204A
B/GAI-11234A,B

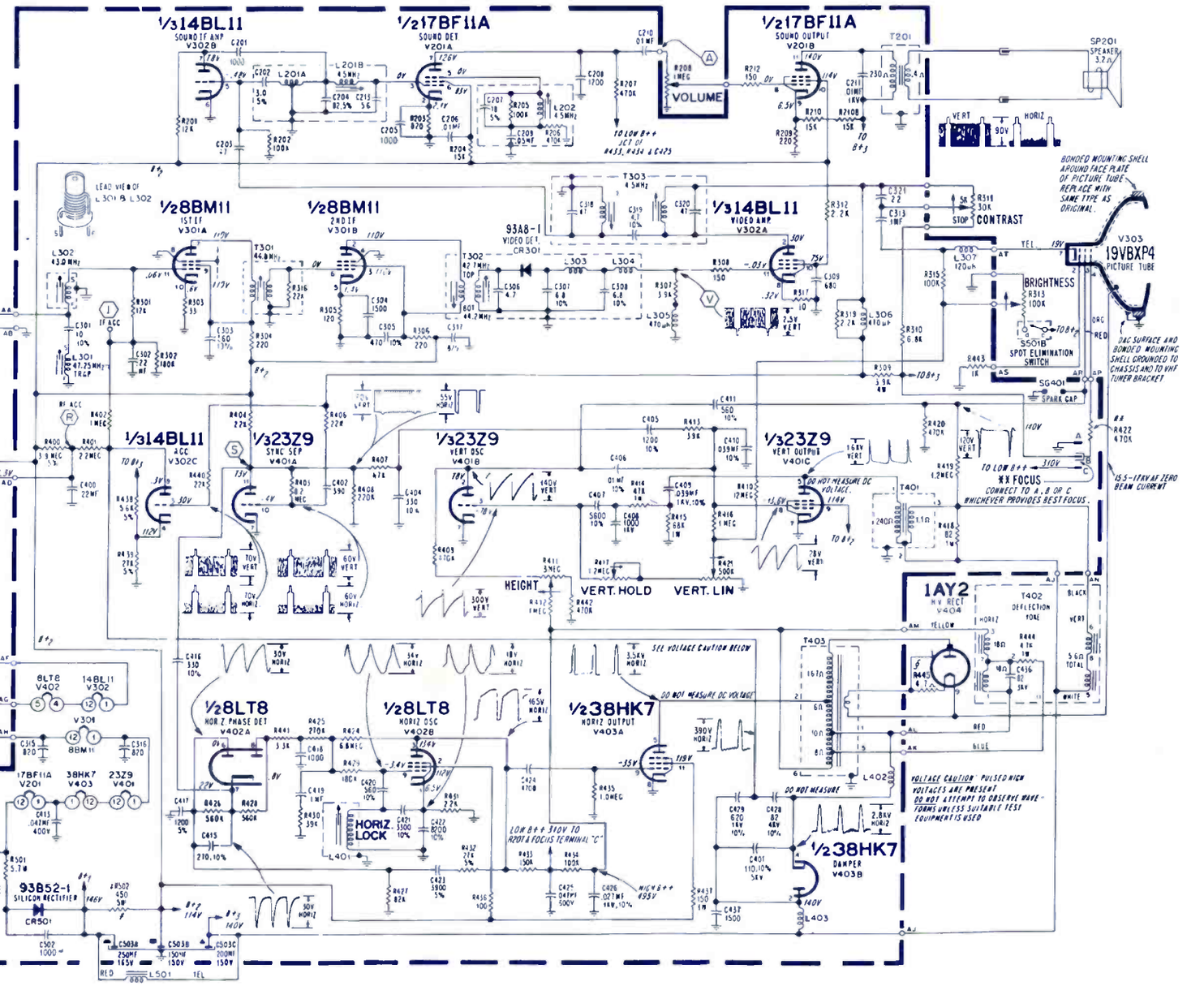
AIRLINE

TV Models
GAI-13133A/B

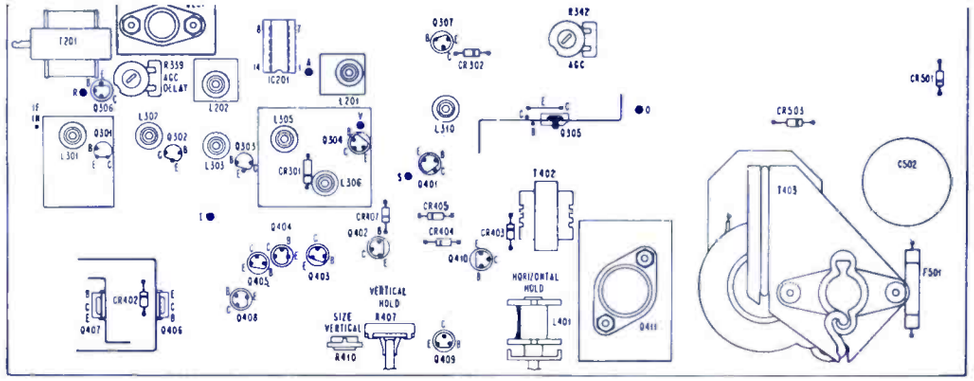




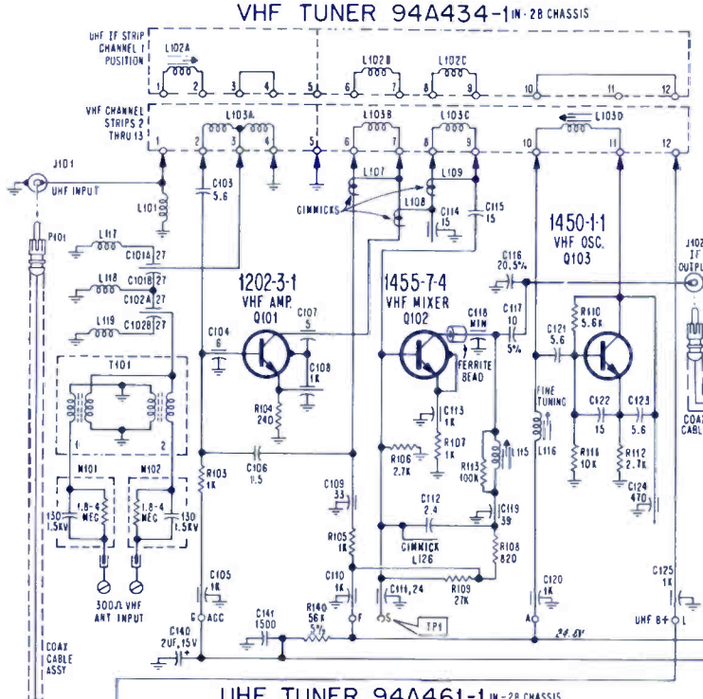




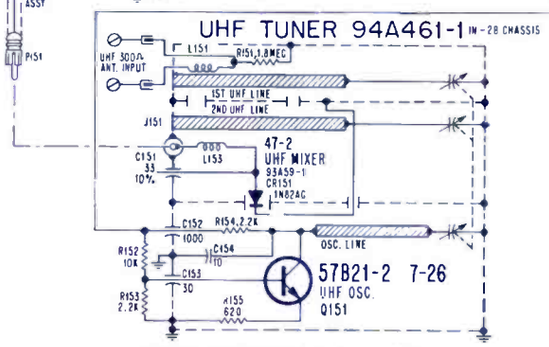
SYMBOL	DESCRIPTION	PART NO.
C502A,B,C	250 µf/165v, 150µf/150v, 200 µf/160v, Electrolytic	67A30-11
R203	25K , volume	75A167-9
R326	500Ω, contrast	75A167-5
R333	100K , brightness	75A167-4
R339	400Ω, AGC delay	75A101-50
R342	200Ω, AGC	75A101-49
R407	1.2M, vert hold	75A191-1
R410	1.5M, vert size	75A101-11
L202	coil, 4.5MHz, phase shifting	72A317-6
L301	coil, 47.25MHz trap	72A316-4
L306	coil, video detector	72A316-15
L310	coil, sound take-off	72A317-1
L401	coil, horiz osc (lock)	94A480-1
T401A,B	yoke, deflection	750A1089-15
T402	xformer, horiz driver	79A167-1
T403	xformer, horiz output	79A166-1
T501	autoformer, filament	80A117-2
CR302	diode, AGC coupling	93A60-5
CR402	diode, bias	93A60-6
IC201	integrated circuit, sound IF, det pre-amp	56A9-1
F501	fuse, 1.5a	84A7-15



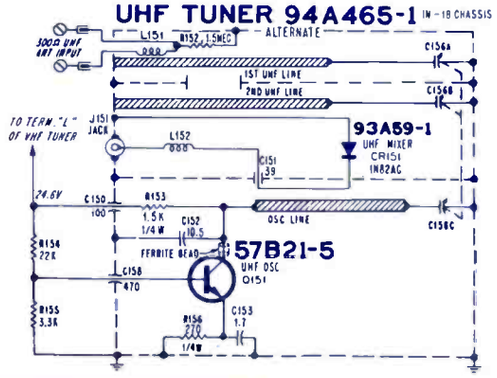
VHF TUNER 94A434-1 IN-28 CHASSIS

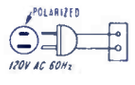


UHF TUNER 94A461-1 IN-28 CHASSIS

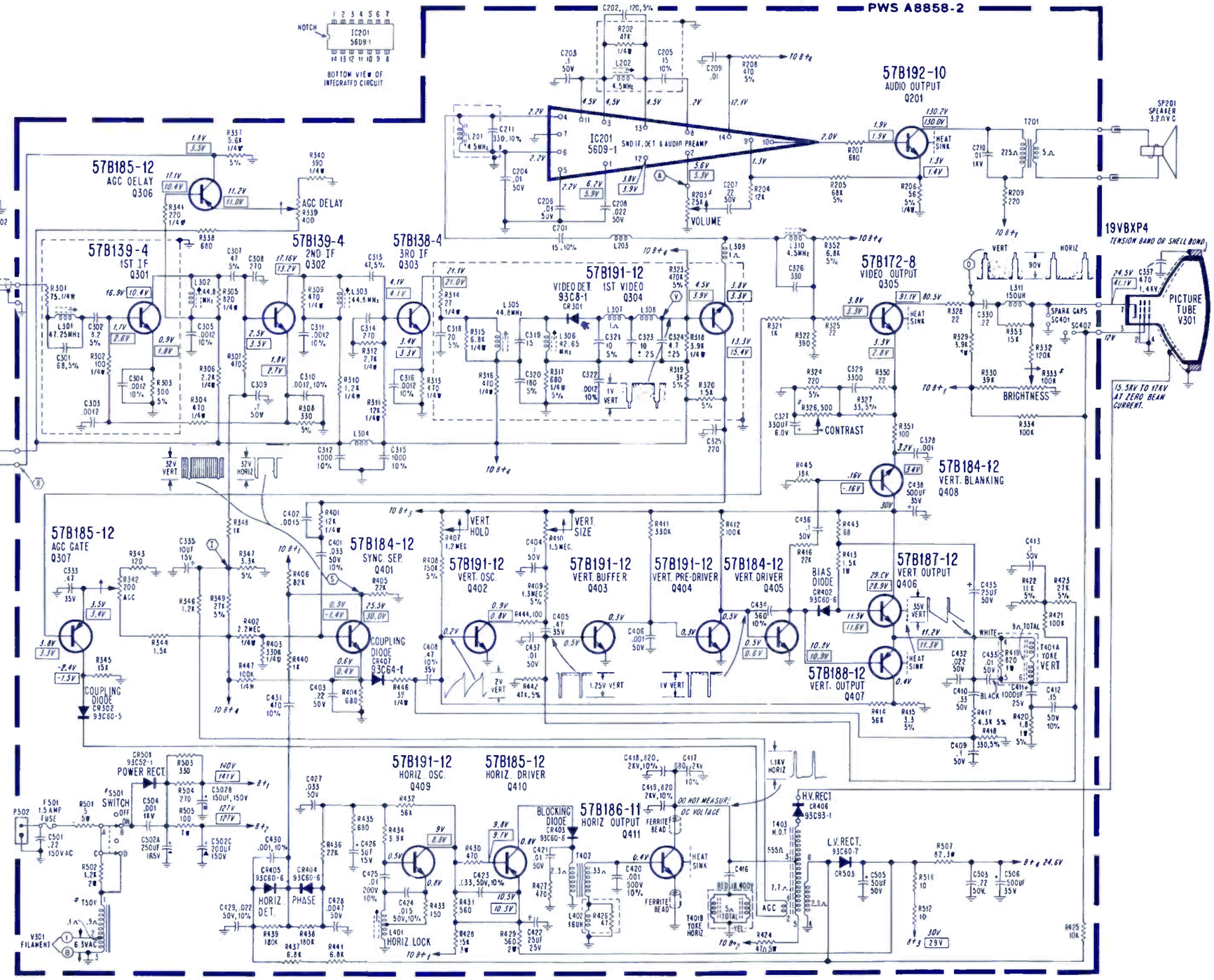


UHF TUNER 94A465-1 IN-18 CHASSIS





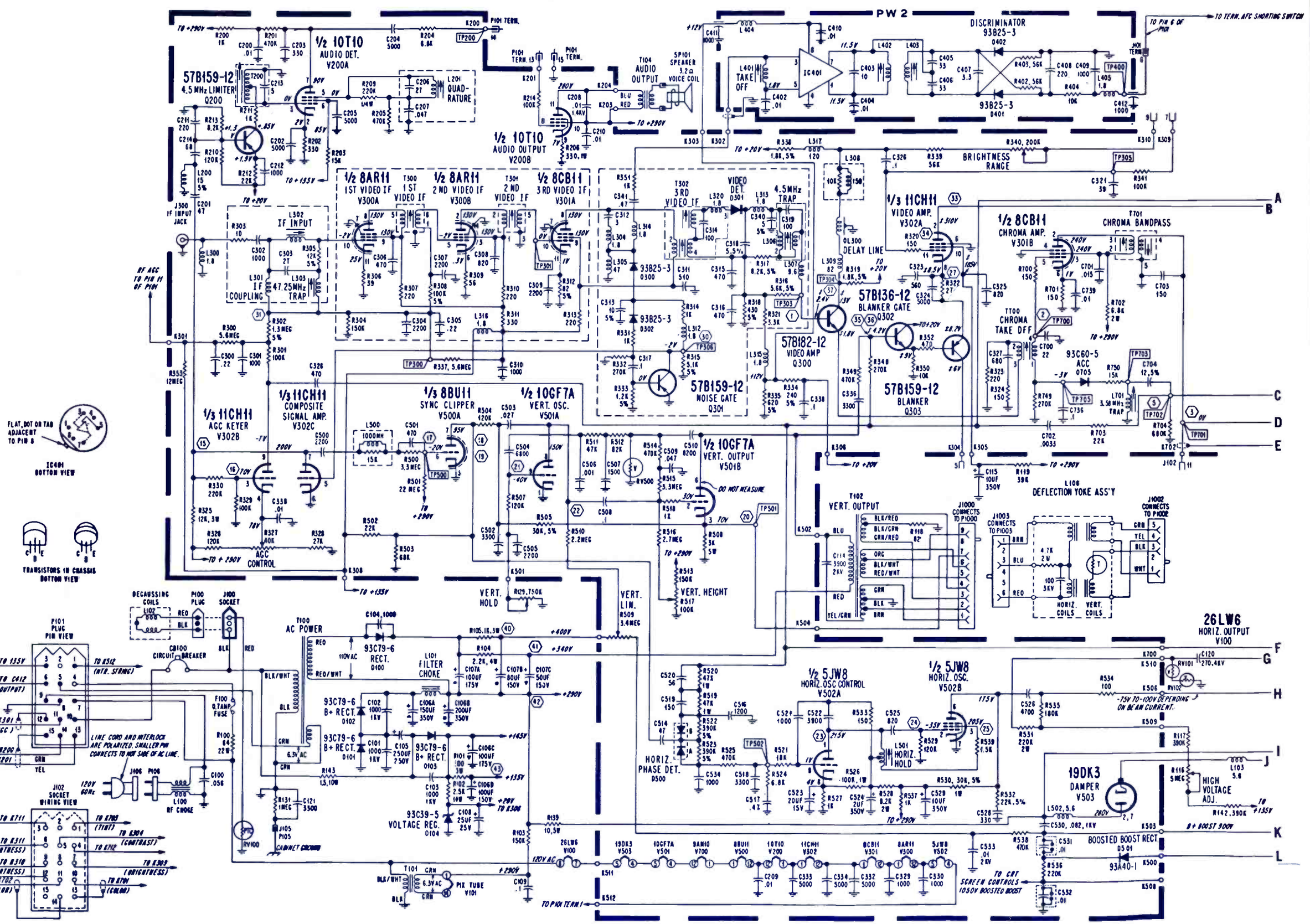
PWS A8858-2

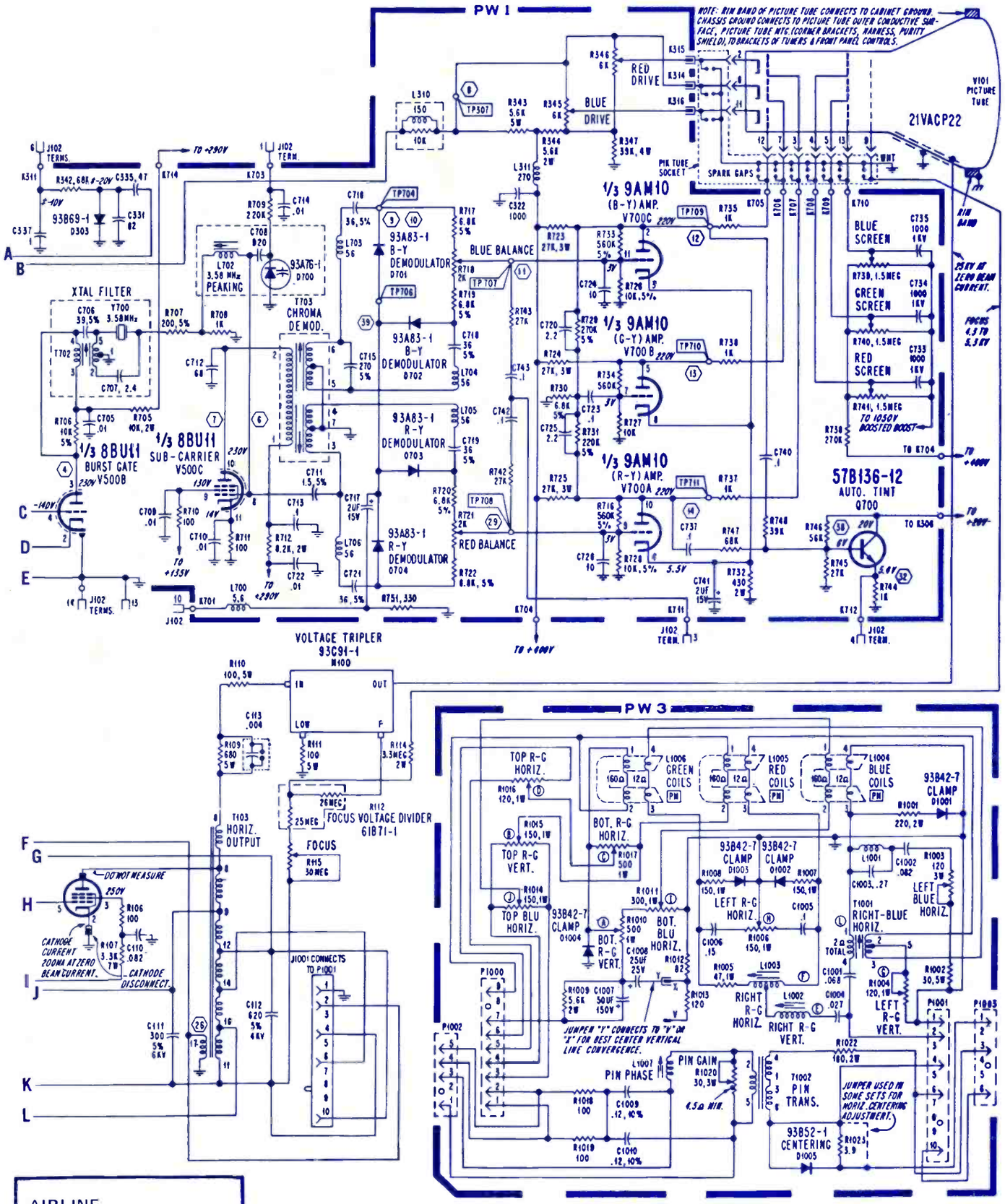


AIRLINE
TV Models
GAI-13444A/44B

AIRLINE
TV Model GAI-17025A

SYMBOL	DESCRIPTION	AIRLINE PART NO.
C106A	150μf, 250v, electrolytic	
C106B	200μf, 350v, electrolytic	
C106C	100μf, 175v, electrolytic	
C106D	100μf, 150v, electrolytic	67A15-412
R115	control focus 30M	75A108-8
R116	control high voltage adj 5M	75A135-48
R124A,B	control contrast 700Ω/700Ω	75A195-3
R125A,B	control brightness 200K/200K	75A195-4
R126A,B	control color 1K/1K	75A195-2
R127A,B	control tint 100K/100K	75A195-1
R128	control volume 1M	75A189-18
R129	control vert hold 750K	75A135-46
R327	control AGC 40K	75A155-9
R345	control blue drive 6K	75A155-9
R346	control red drive 6K	75A155-9
R340	control brightness range 200K	75A155-10
R509	control vert lin 3.4M	75A155-10
R517	control vert height 100K	75A155-10
L106	coils deflect yoke assembly	94A460-1
L201	coil quad	72A366-1
L501	coil horiz hold	94A351-1
T100	xformer, power	80A116-3
T103	xformer horiz output	79A164-3
T104	xformer audio output	79A88-7
T200	xformer 4.5MHz sound driver	72A303-17
T700	xformer chroma take off	72A368-1
T703	xformer chroma demod	72A357-1
M100	voltage tripler	93A91-1
CB100	circuit breaker 2.6a	84A17-15
	tuner UHF	94A440-1
	tuner VHF	94A421-1





AIRLINE
TV Model GAI-17025A

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.

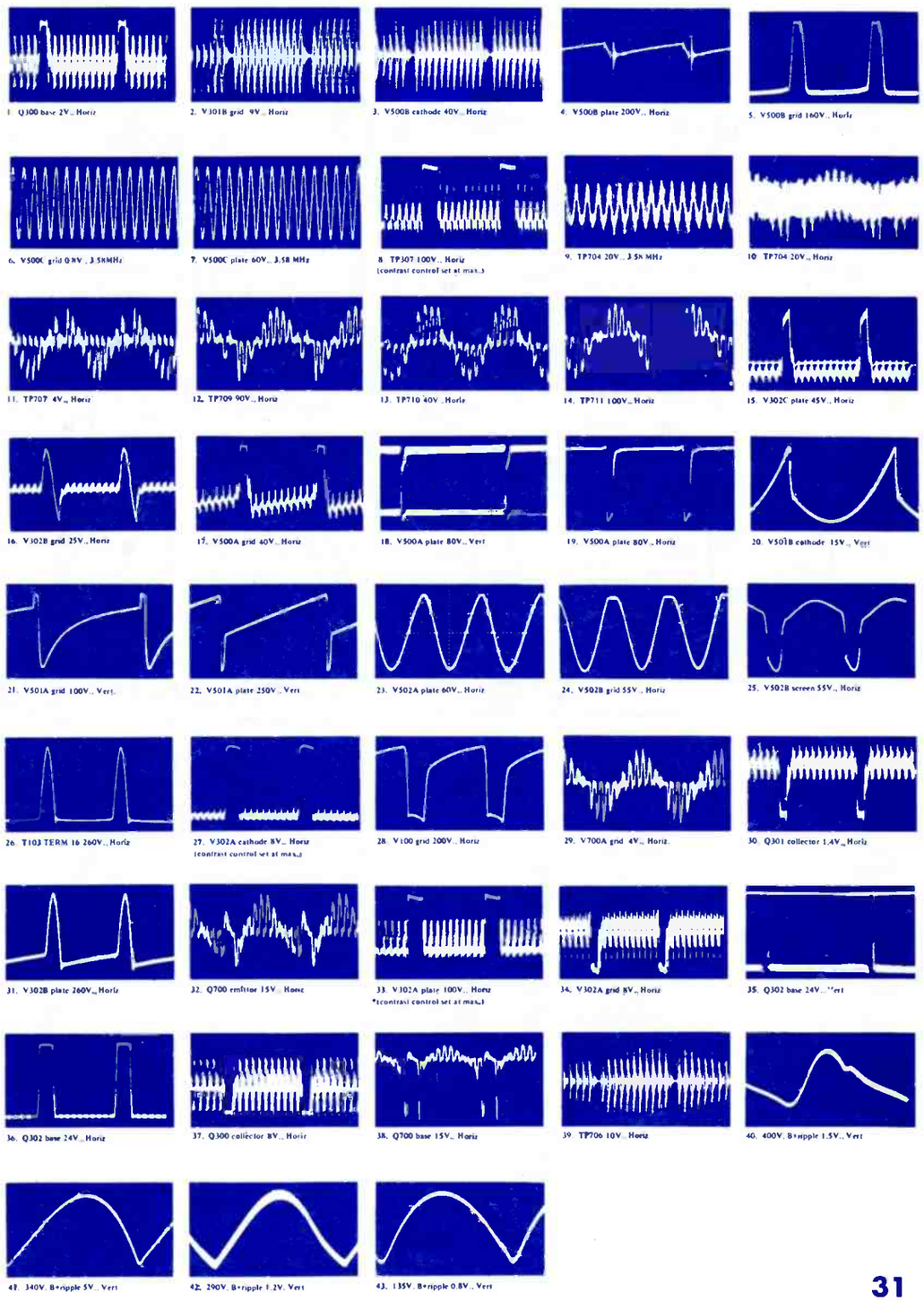
DC VOLTAGES ARE MEASURED WITH VTVM PLACED BETWEEN POINTS INDICATED & CHASSIS GROUND, LINE VOLTAGE SET AT 120V AC & ALL CONTROLS SET FOR NORMAL PICTURE UNLESS OTHERWISE INDICATED. VOLTAGE READINGS ARE TAKEN WITHOUT SIGNAL, WITH VHF TUNER SET AT UNUSED CHANNEL. VOLTAGES SHOWN IN BRACKETS ( ) ARE MEASURED 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.

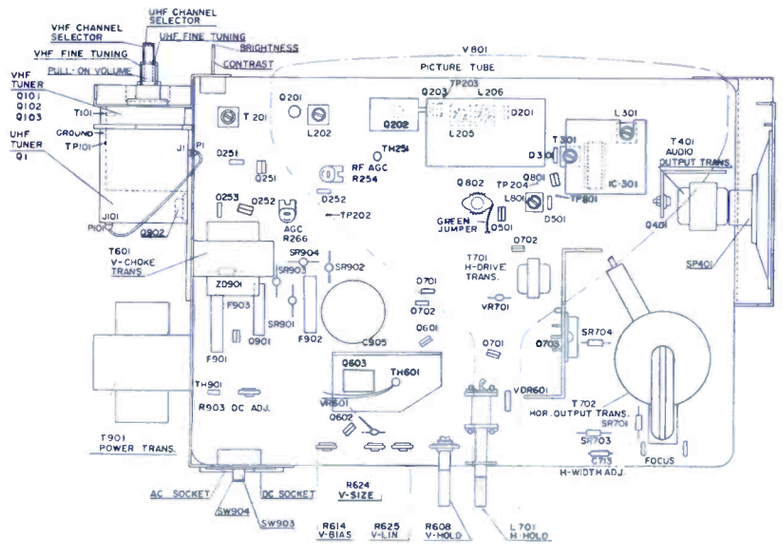
TP SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

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

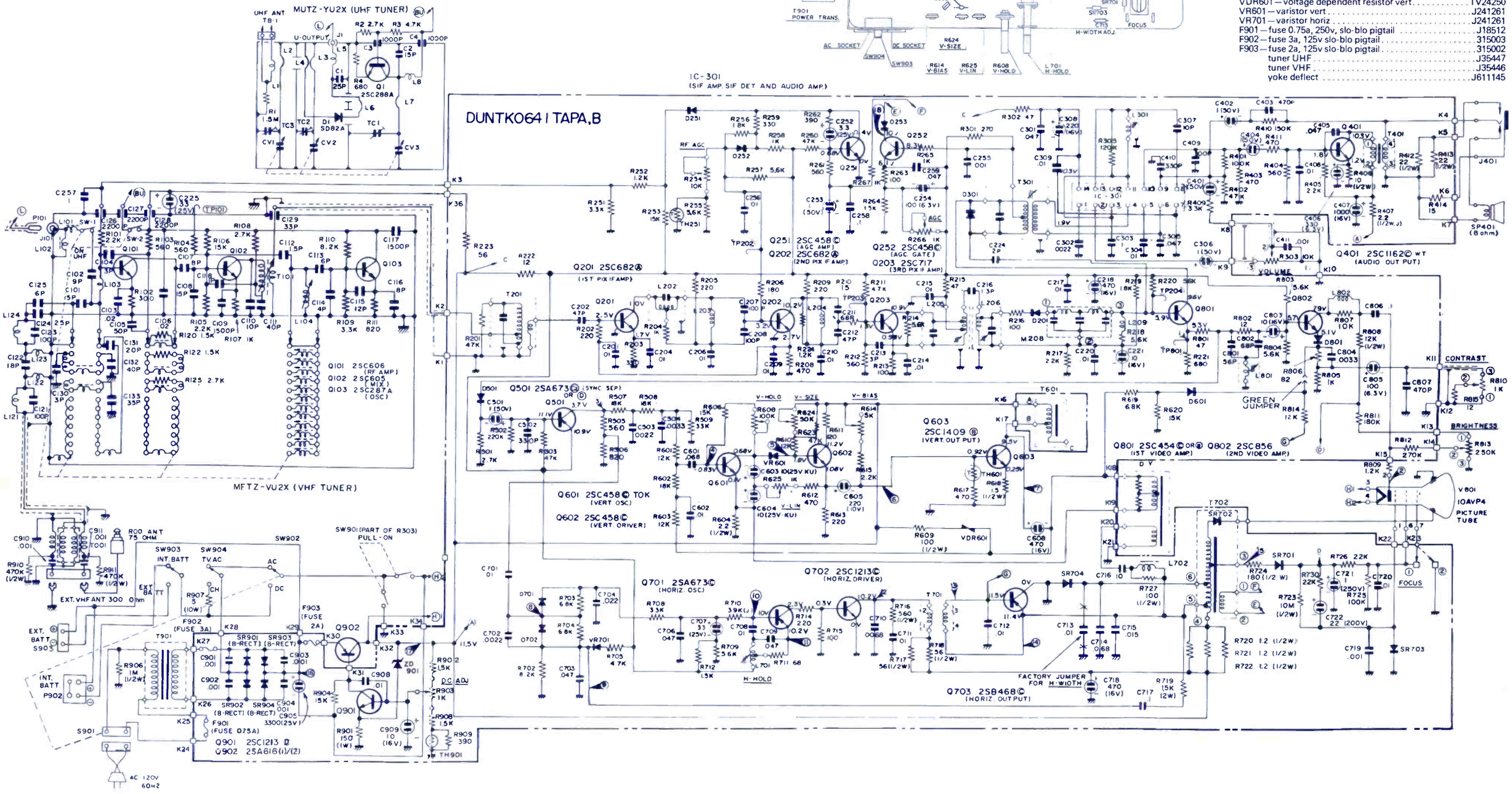
WARNING: CHASSIS IS CONNECTED DIRECTLY TO ONE SIDE OF AC POWER LINE. USE AN ISOLATION TRANSFORMER WHEN SERVICING TO AVOID THE POSSIBILITY OF ACCIDENTAL ELECTRICAL SHOCK & DAMAGE TO TEST EQUIPMENT.

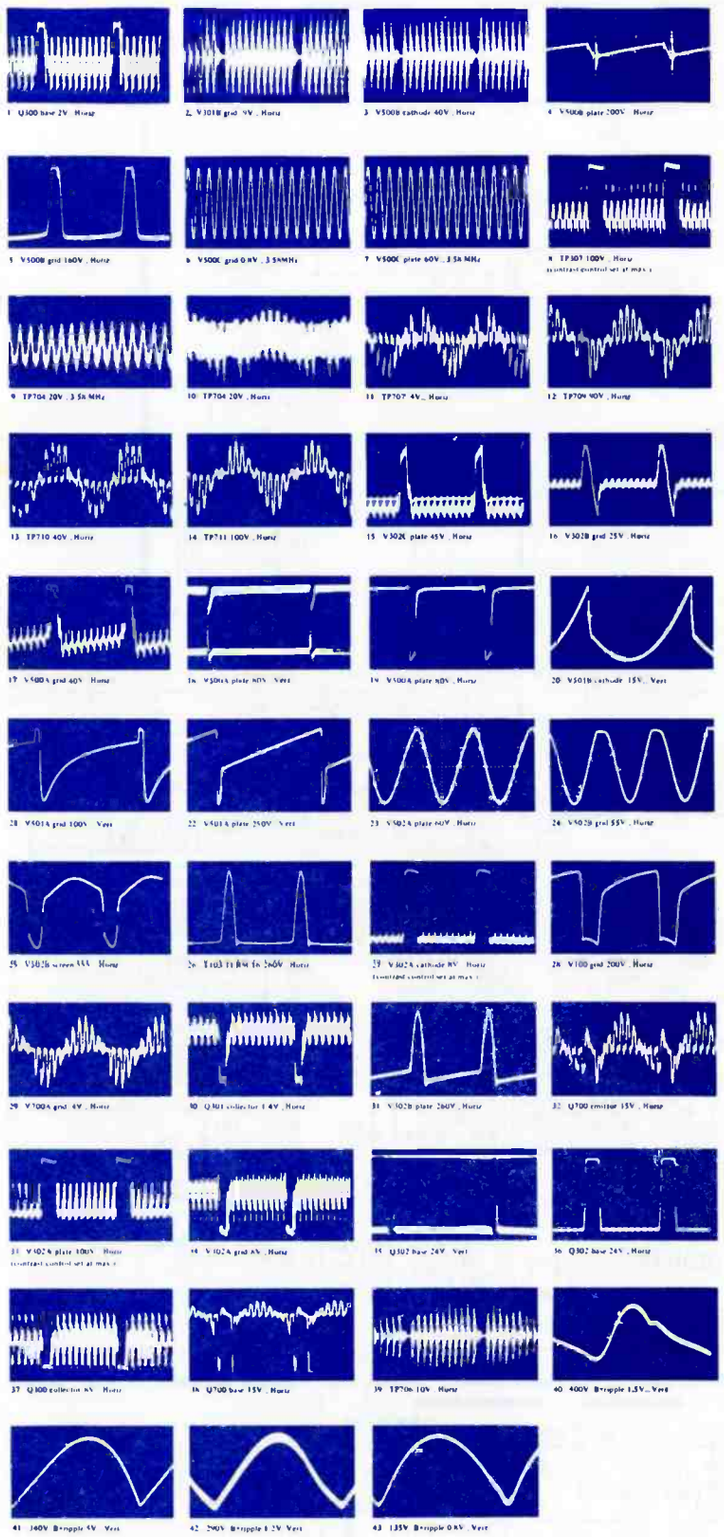


AIRLINE
TV Model
GEN11965A

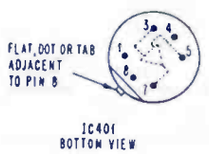


SYMBOL	DESCRIPTION	AIRLINE MODEL NO.
R254	10K RF AGC	J25635
R266	1K AGC	TV25511
R303, SW901	10K volume w/on-off switch	J25636
R608	100K vert hold	J25637
R614	5K vert bias	J25638
R624	50K vert size	J25639
R625	1K vert lin	J25640
R810	1K contrast	J25641
R813	250K brite	J25642
R903	1K voltage adjust	J25643
L301	coil sound detect	J611143
L701	coil horiz hold	J611141
L801	coil 4.5MHz trap	TV62258
T401	xformer audio output	J62762
T601	xformer vert choke	TV11169
T701	xformer horiz driver	J62763
T702	xformer horiz output incl SR702	J62764
T901	xformer power	J62765
M208	filter pix detect	J611140
TH251	therm AGC	J241263
TH601	therm vert	J241264
TH901	therm B +	J241264
VDR601	voltage dependent resistor vert	TV24250
VR601	varistor vert	J241261
VR701	varistor horiz	J241261
F901	fuse 0.75a, 250v, slo-blo pigtail	J18512
F902	fuse 3a, 125v slo-blo pigtail	315003
F903	fuse 2a, 125v slo-blo pigtail	315002
	tuner UHF	J35447
	tuner VHF	J35446
	yoke deflect	J611145

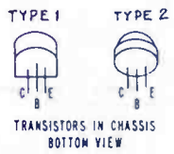




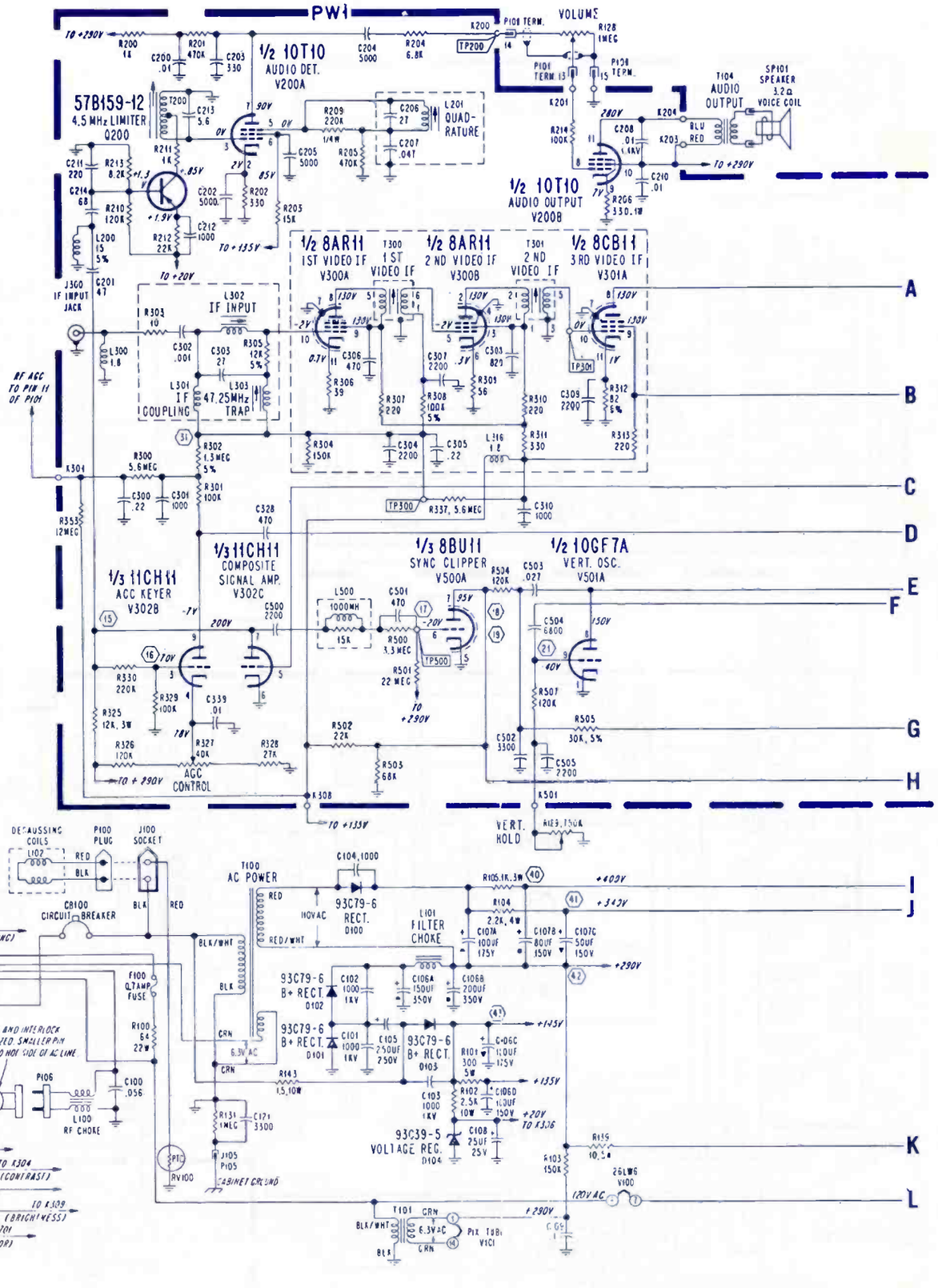
SYMBOL	DESCRIPTION	AIRLINE PART NO.
C106A C106B C106C C106D	150 µf, 250v, electrolytic 200 µf, 350v, electrolytic 100 µf, 175v, electrolytic 100 µf, 150v, electrolytic	67A15-412
C107A C107B C107C	100 µf, 175v, electrolytic 80 µf, 150v, electrolytic 50 µf, 150v, electrolytic	67A15-511
R112	voltage divider, focus	61A71-1
RV101,102	VDR	61A46-13
RV500	varistor	61A65-1
R115	control, focus 130M	75A108-8
R116	control, high voltage adjust, 5M	75A135-48
R124	control, contrast 350 n	75A140-3
R125	control, brightness, 100K	75A140-13
R126	control, color, 500 n	75A140-22
R127	control, tint, 50K	75A140-23
R128	control, volume, ON/OFF, 1M	75A189-3
R129	control, vert hold, 750K	75A135-46
L101	filter choke	74A31-1
L106	deflection yoke assembly	94A379-10
L201	coil, quadrature (inc. C206)	72A366-1
L306	coil, 4.5MHz trap	72A367-1
L501	coil, horiz hold	94A351-2
T100	xformer, power	80A116-3
T101	xformer, pix filament	80A119-1
T102	xformer, vert. output	79A153-4
T103	xformer, horiz. output	79A164-3
T104	xformer, audio output	79A88-7
T200	xformer, 4.5MHz, sound driver	72A303-17
T700	xformer, chroma take-off	72A368-1
T701	xformer, chroma bandpass	72A358-1
M100	voltage tripler	93A91-1
IC401	integrated circuit	56A1-1
CB100	circuit breaker, 2.6a	84A17-15
F100	fuse, .7a	84A28-13
	tuner, UHF	94A396-3
	tuner, VHF	94A423-1



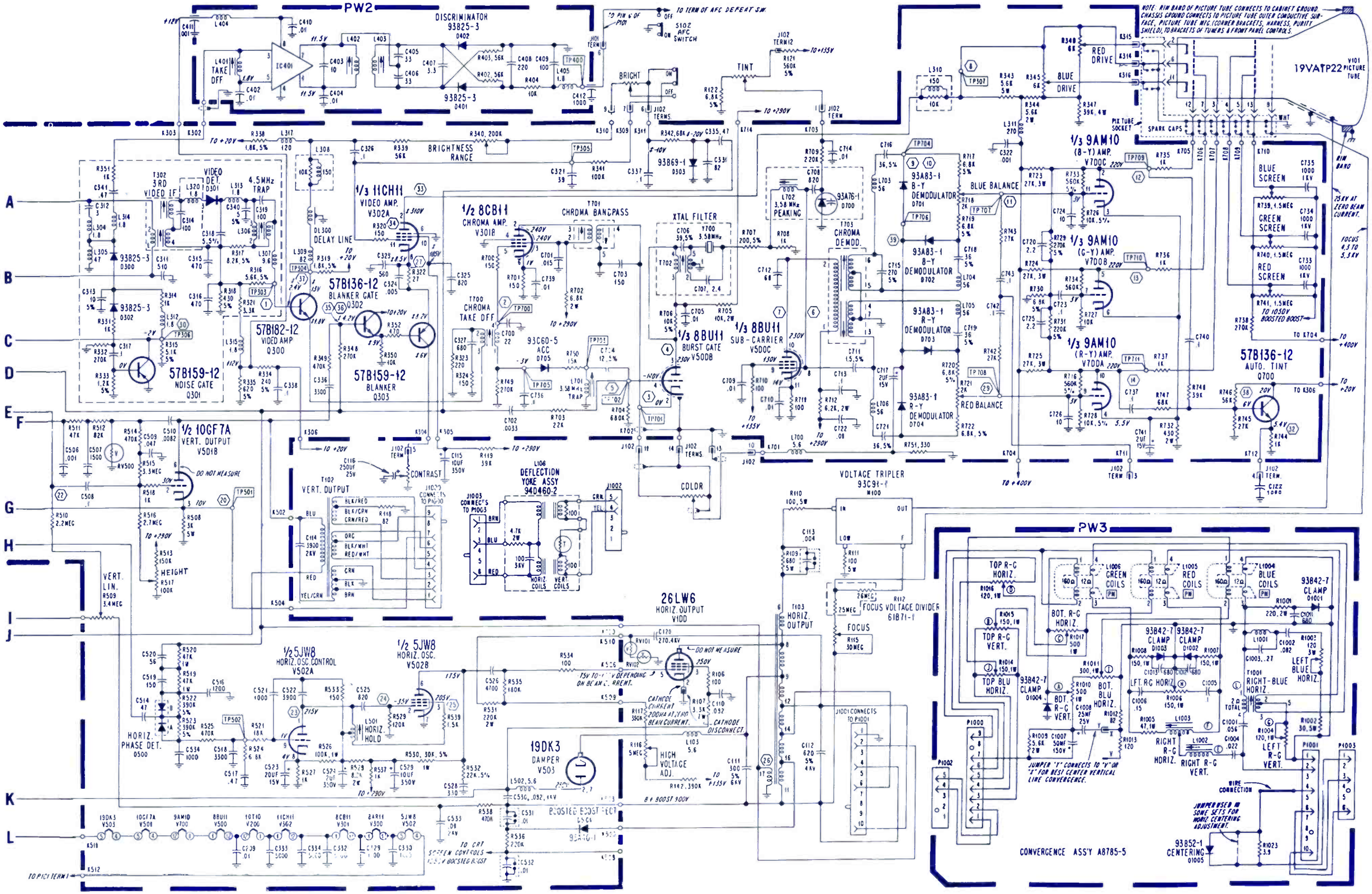
IC401
BOTTOM VIEW

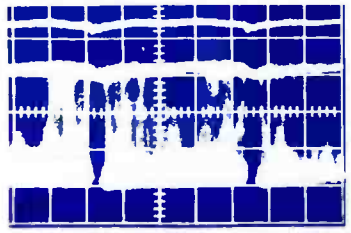


TRANSISTORS IN CHASSIS
BOTTOM VIEW

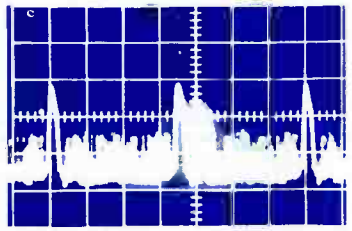


AIRLINE
Color-TV Model
GAI-12914B

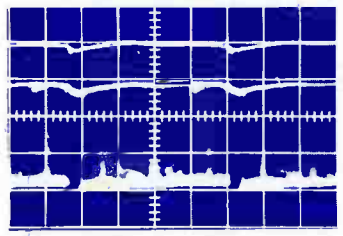

PW2
DISCRIMINATOR 93825-3
TAKE OFF
TINT
BRIGHT
BRIGHTNESS RANGE
VIDEO DET.
3RD VIDEO IF
4.5MHz TRAP
1/3 11CH11 VIDEO AMP. V302A
DL300 DELAY LINE
57B136-12 BLANKER GATE Q302
57B182-12 VIDEO AMP Q300
57B159-12 NOISE GATE Q301
57B159-12 BLANKER Q303
1/2 8CB11 CHROMA AMP. V301B
T701 CHROMA BANDPASS
T700 CHROMA TAKE OFF
93C60-5 ACC D705
XTAL FILTER Y700 3.58MHz
T702
T703 CHROMA DEMOD.
L702 3.58 MHz PEAKING
1/3 8BU11 BURST GATE V5008
1/3 8BU11 SUB-CARRIER V5008
93A83-1 B-Y DEMODULATOR D701
93A83-1 8-Y DEMODULATOR D702
93A83-1 R-Y DEMODULATOR D703
93A83-1 R-Y DEMODULATOR D704
BLUE BALANCE
RED BALANCE
RED DRIVE
BLUE DRIVE
1/3 9AM10 (B-Y) AMP. V700C
1/3 9AM10 (G-Y) AMP. V700B
1/3 9AM10 (R-Y) AMP. V700A
19VATP22 PICTURE TUBE
BLUE SCREEN
GREEN SCREEN
RED SCREEN
57B136-12 AUTO. TINT Q700
1/2 10GF7A VERT. OUTPUT V5018
T102 VERT. OUTPUT
DEFLECTION YOKE ASSY 940460-2
CONTRAST
VERT. LIN.
HEIGHT
1/2 5JW8 HORIZ. OSC. CONTROL V502A
1/2 5JW8 HORIZ. OSC. V502B
HORIZ. PHASE DET. D500
HORIZ. HOLD
19DK3 DAMPER V503
BOOSTED BOOST RECT.
26LW6 HORIZ. OUTPUT V100
T103 HORIZ. OUTPUT
VOLTAGE TRIPLER 93C91-1 M100
FOCUS VOLTAGE DIVIDER 61B71-1
FOCUS
HIGH VOLTAGE ADJ.
COLOR
PW3
TOP R-G HORIZ.
TOP R-G VERT.
TOP BLU HORIZ.
BOT. R-G HORIZ.
BOT. R-G VERT.
BOT. BLU HORIZ.
93842-7 CLAMP
GREEN COILS
RED COILS
BLUE COILS
LEFT BLUE HORIZ.
RIGHT-BLUE HORIZ.
RIGHT R-G HORIZ.
RIGHT R-G VERT.
LEFT R-G VERT.
93852-1 CENTERING 01005
CONVERGENCE ASS'Y A8785-5
JUMPER USED IN SOME SETS FOR HORIZ. CENTERING ADJUSTMENT.
JUMPER "I" CONNECTS TO "V" OR "E" FOR BEST CENTER VERTICAL LINE CONVERGENCE.
TO PIC I TERM
TO CRT SCREEN CONTROLS
TO 400V
TO 290V
TO 135V
TO 20V
TO K704
TO K306
TO K705
TO K706
TO K707
TO K708
TO K709
TO K710
TO K711
TO K712
TO K701
TO K702
TO K703
TO K714
TO K315
TO K316
TO K310
TO K309
TO K311
TO K303
TO K302
TO K304
TO K305
TO K502
TO K504
TO K510
TO K509
TO K513
TO K512
TO K518
TO K503
TO K501
TO K507
TO K508
TO K506
TO K505
TO K704
TO K711
TO K712
TO P1000
TO P1001
TO P1002
TO P1003
TO P1004
TO P1005
TO P1006
TO P1007
TO P1008
TO P1009
TO P1010
TO P1011
TO P1012
TO P1013
TO P1014
TO P1015
TO P1016
TO P1017
TO P1018
TO P1019
TO



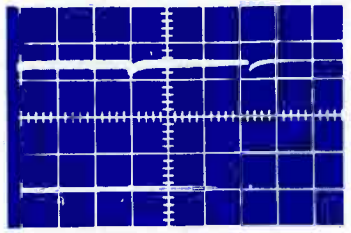
1. Vert. Rate 2.2V P-P



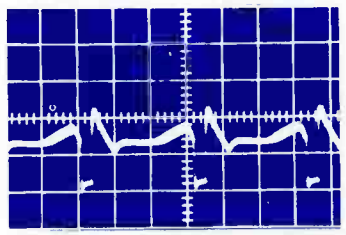
2. Horiz. Rate 14.8V P-P



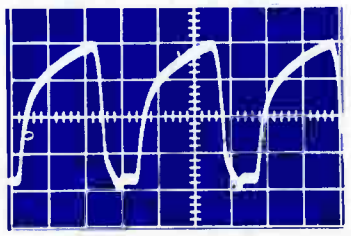
3. Vert. Rate 2.0V P-P



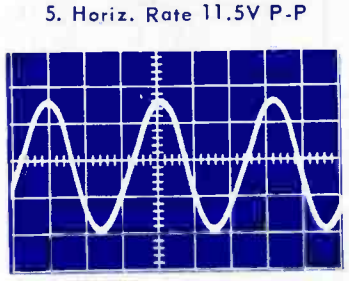
4. Horiz. Rate 34V P-P



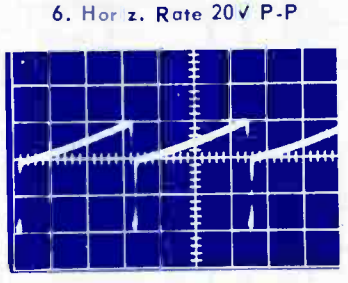
5. Horiz. Rate 11.5V P-P



6. Horiz. Rate 20V P-P

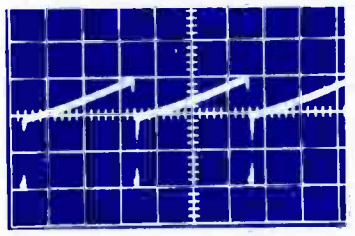


7. Hariz. Rate 180V P-P

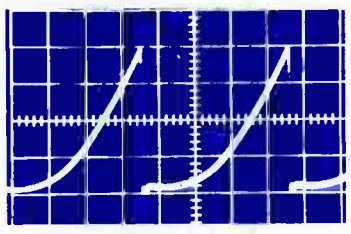


8. Vert. Rate 150V P-P

9. Vert. Rate 8[illegible] P-P

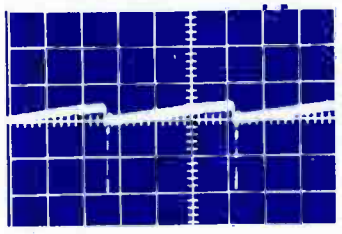


10. Vert. Rate 150V P-P

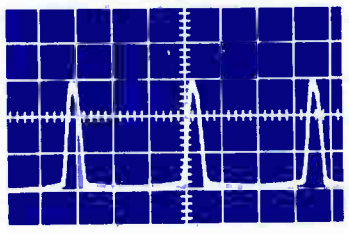


11. Vert. Rate 20V P-P

12. Horiz. Rate 205V P-P

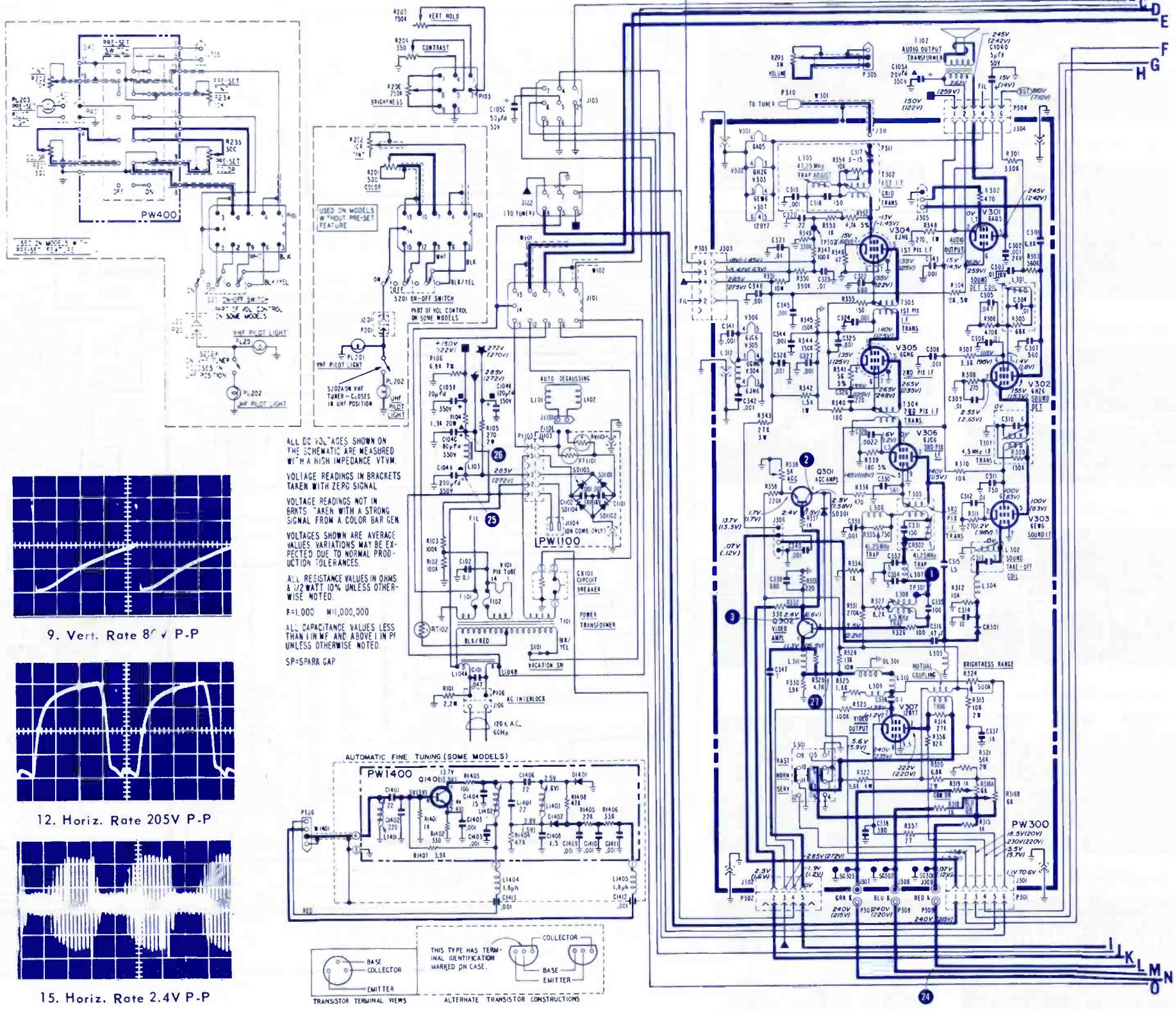


13. Vert. Rate 120V P-P

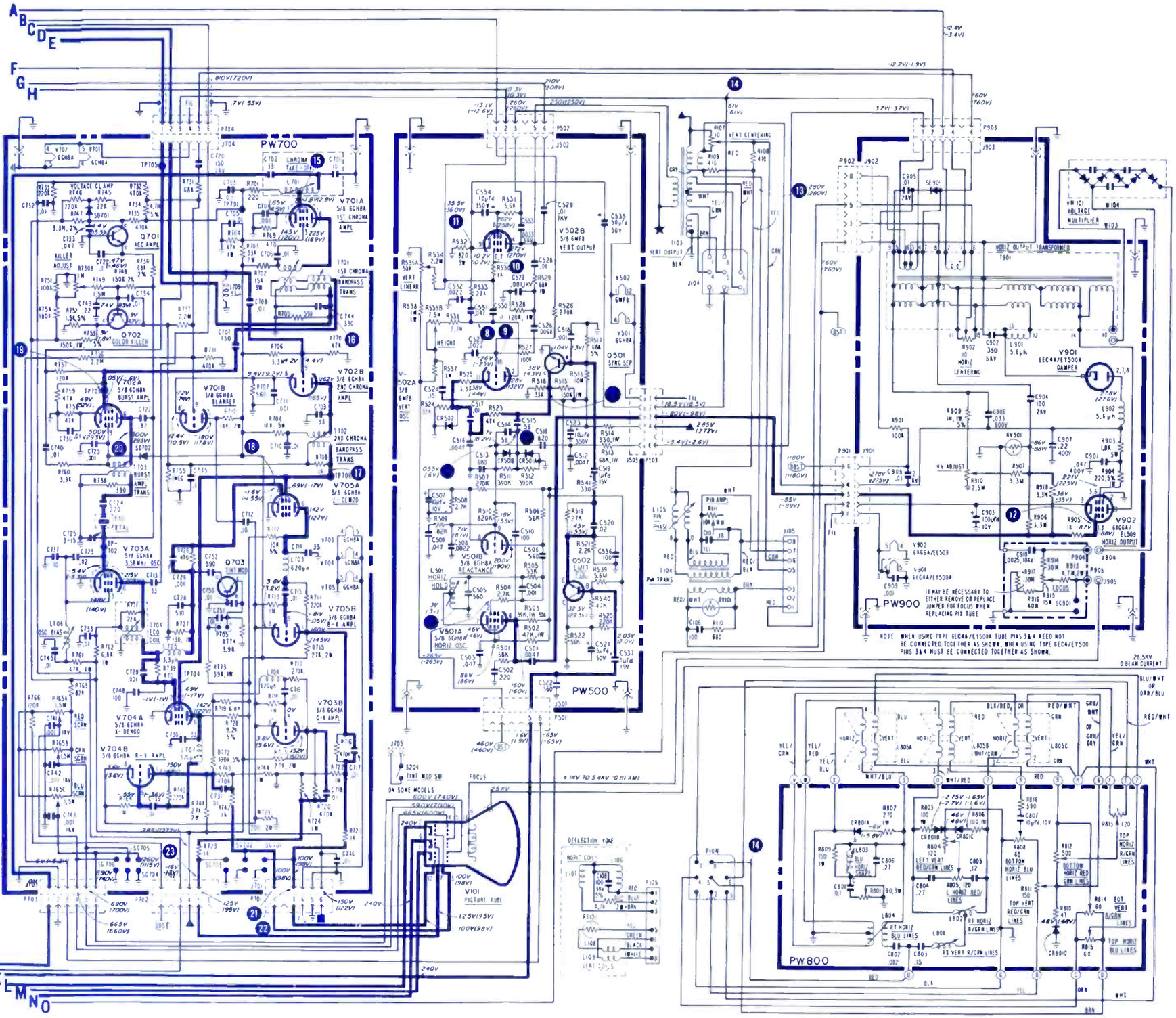


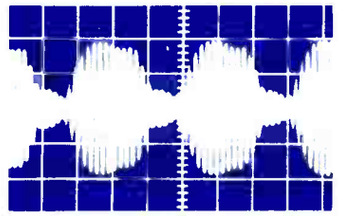
14. Horiz. Rate 300V P-P

15. Horiz. Rate 2.4V P-P

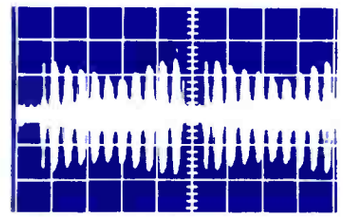


CHANNEL MASTER
Color-TV Chassis
T5002

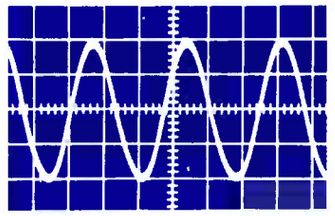




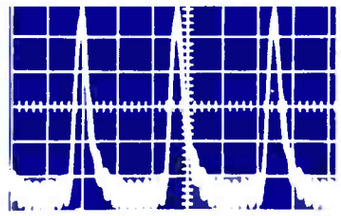
*16. Horiz. Rate 6.8V P-P



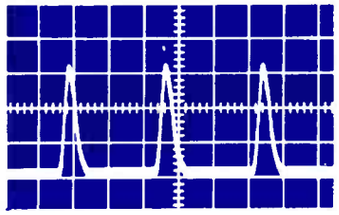
*17. Horiz. Rate 6.8V P-P



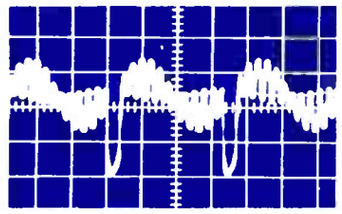
18. Horiz. Rate 8.0V P-P



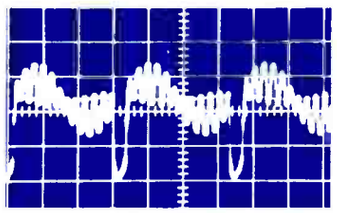
*19. Horiz. Rate 60V P-P



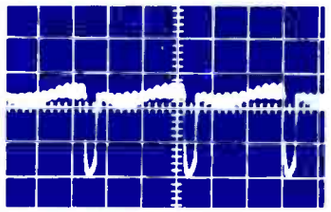
*20. Horiz. Rate 165V P-P



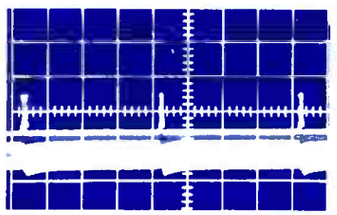
*21. Horiz. Rate 170V P-P



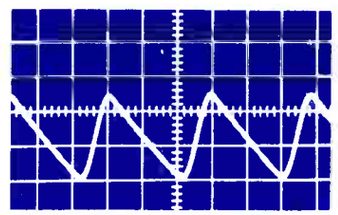
*22. Horiz. Rate 170V P-P



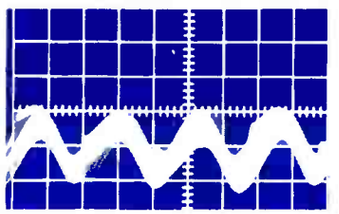
*23. Horiz. Rate 135V P-P



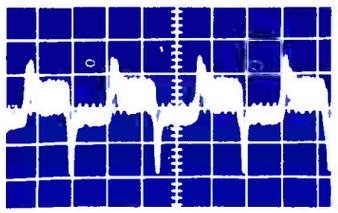
*24. Vert. Rate 125V P-P



*25. Vert. Rate 13.0V P-P

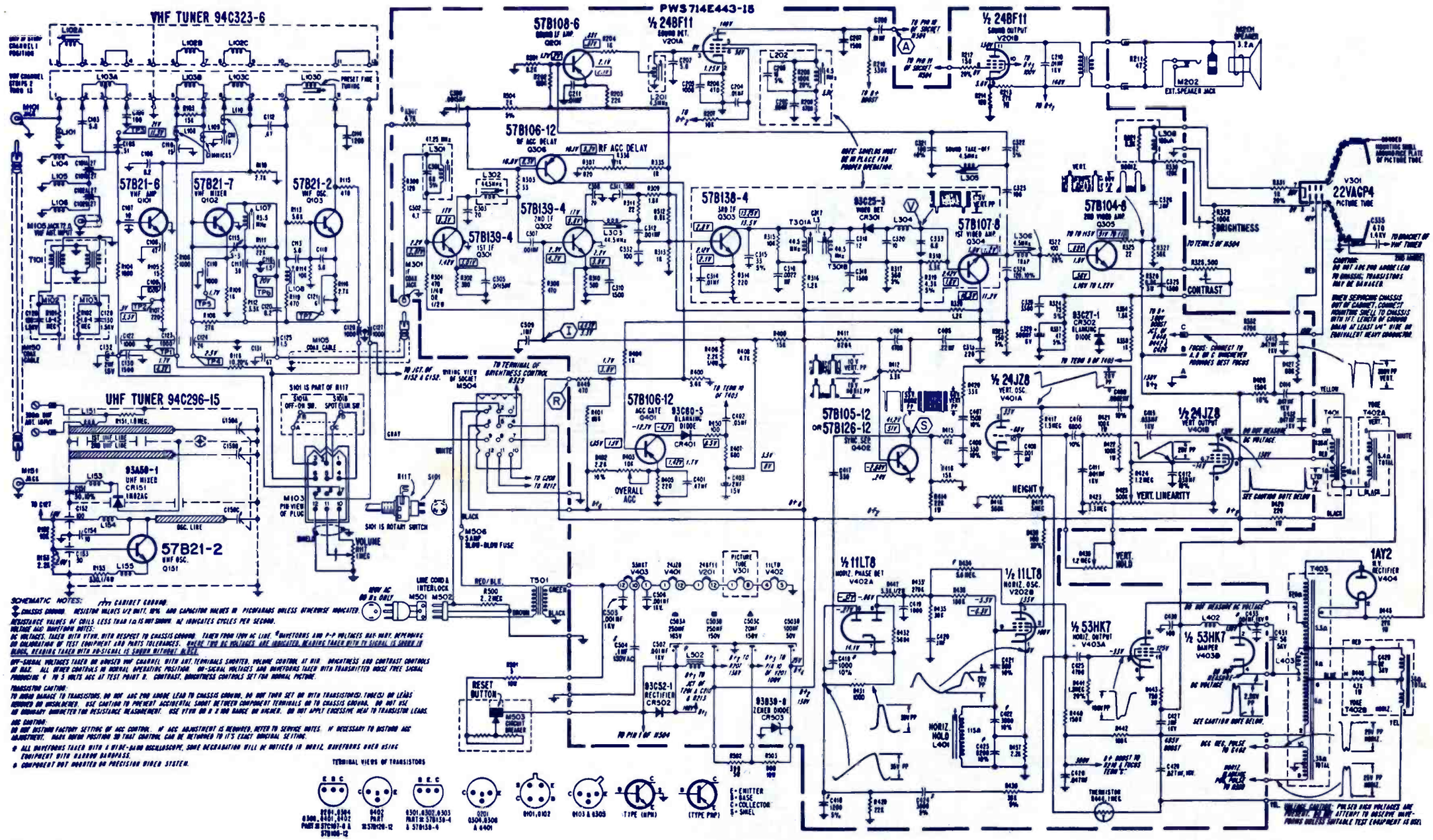


*26. Vert. Rate 0.4V P-P



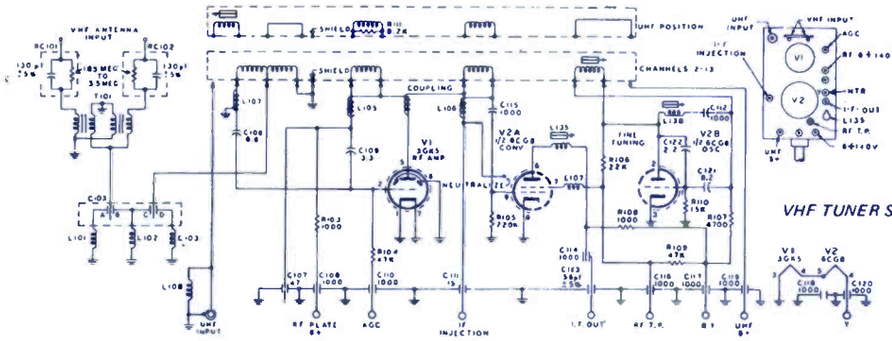
*27. Horiz. Rate 10.6V P-P

SYMBOL	DESCRIPTION	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

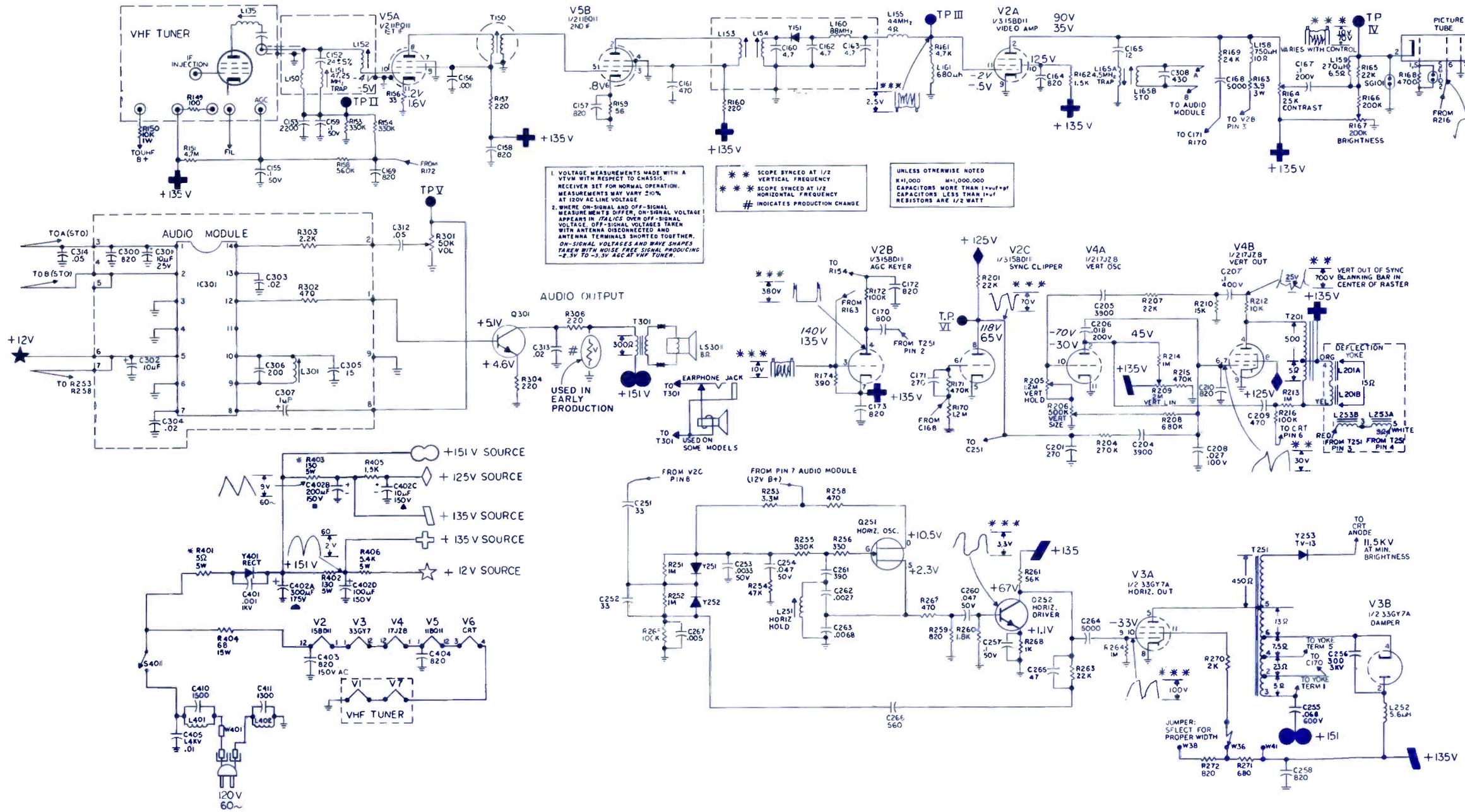


GENERAL ELECTRIC
TV Chassis 9SF

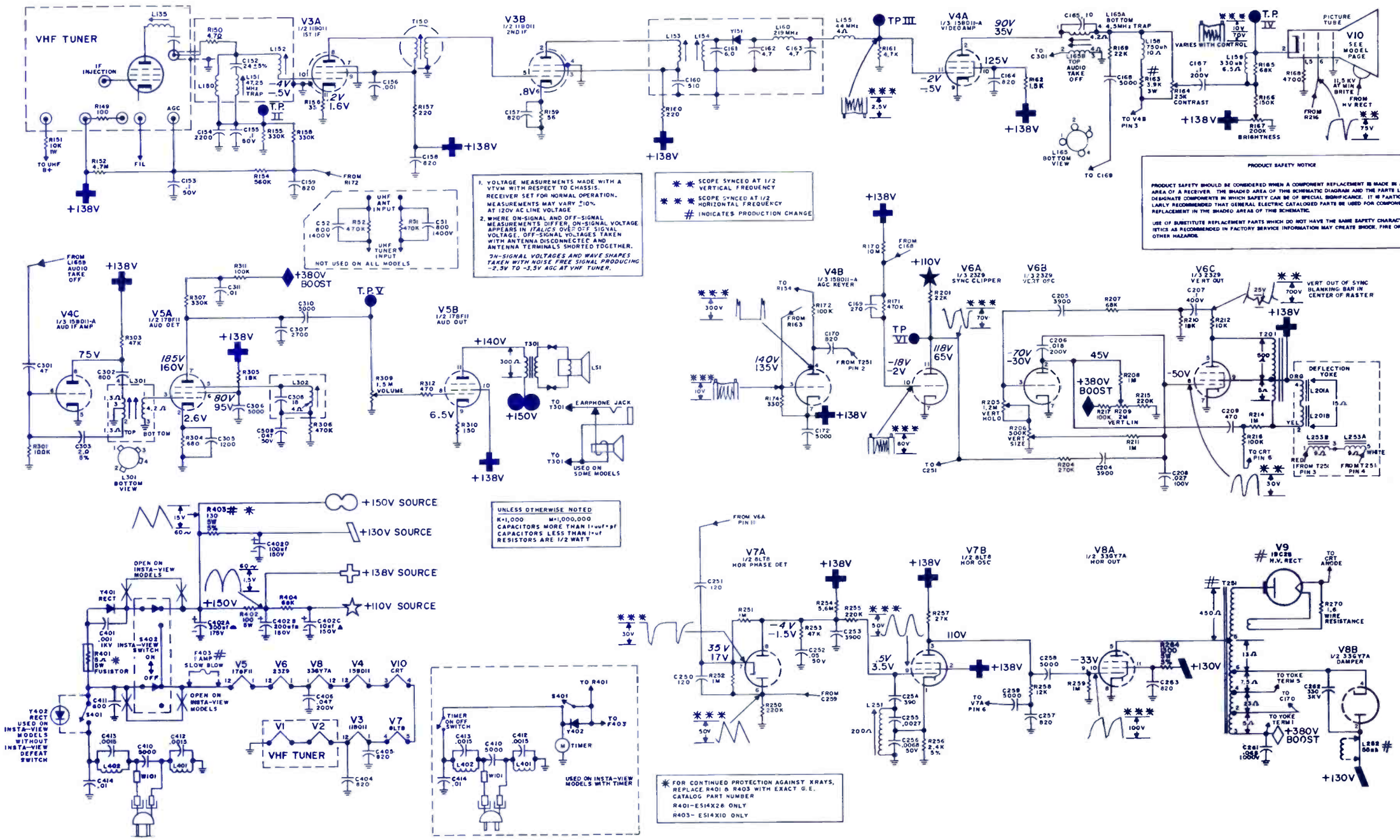
SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R205	vert hold, 1.2M, 30%	ES49X2
R206	vert height, 500K, 20%	
R209	vert lin, 2M, 30%	
C402A	300μf, 175v	ES31X254
C402B	200μf, 150v	
C402C	10μf, 150v	
C402D	100μf, 150v	
L151	47.25MHz, trap	ES36X117
L165	coil-sound take off	ES36X119
L251	horiz osc	ET35X51
T201	xformer vert output	ES64X6
T251	xformer horiz output	ES77X17
T301	xformer audio output	ES64X13
	fuse, 4a, 250v, fast blo, W401	EP10X52



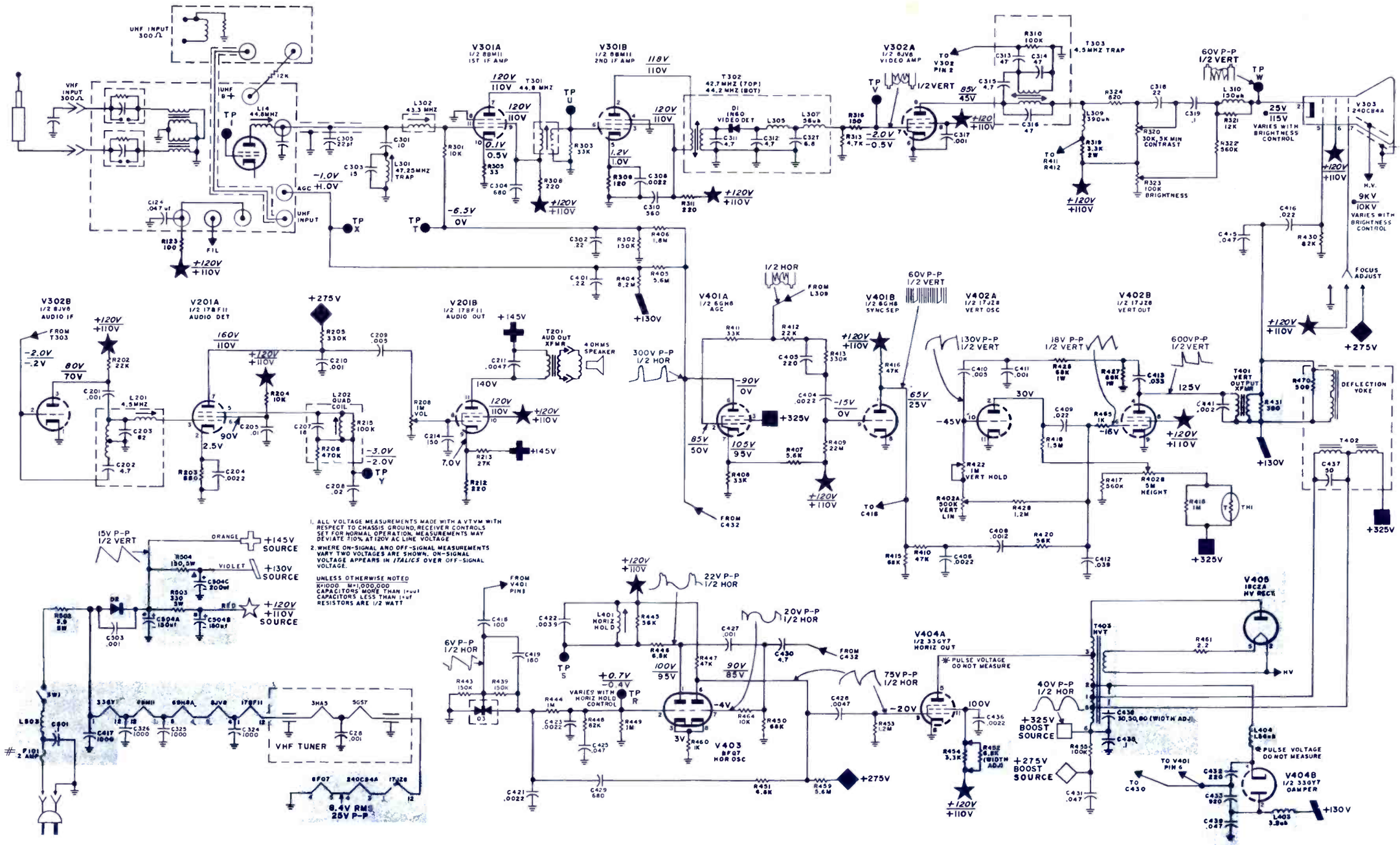
VHF TUNER SCHEMATIC DIAGRAM

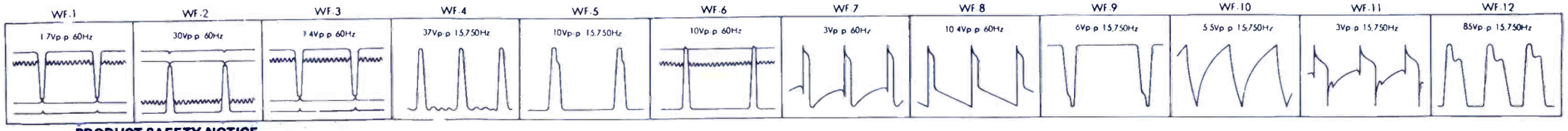


SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R401	5, 5w, 5%, fuse resistor	ES14X28
	triple control	ES49X2
R205	1.2M, vert hold	
R206	500K, height	
R209	2M, vert lin.	
	triple control	ES49X10
R164	25K, contrast	(Short
R167	200K, brightness	Shafts)
R309	1.5M, volume w/S401	
	triple control	ES49X4
R164	25K, contrast	(Long
R167	200K, brightness	Shafts)
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
L153	coil, video detector (Primary)	ES36X757
L154	coil, video detector (secondary)	ET36X587
L165	coil, 4.5MHz trap, sound takeoff	ES36X4
L201A, B	yoke, deflection 21 mm, toroidal	ES76X48
L251	coil, horiz osc	EU35X1
L301	coil, 4.5MHz, audio interstage	ES61X1
L302	coil, quad	ES36X665
T201	xformer, vert output	ES64X6
T251	xformer, horiz output	ES77X10
T301	xformer, audio output	ES64X1
	fuse, 4a, fast-blo, W101	EP10X52
	fuse 1a, slo-blo, F403	ES10X7


VHF TUNER
V3A 1/2 11BQ11 1ST IF
V3B 1/2 11BQ11 2ND IF
V4A 1/3 15BD11-A VIDEO AMP
V4B 1/3 15BD11-A AGC KEYER
V4C 1/3 15BD11-A AUD IF AMP
V5A 1/2 17BF11 AUD DET
V5B 1/2 17BF11 AUD OUT
V6A 1/3 2329 SYNC CLIPPER
V6B 1/3 2329 VERT OSC
V6C 1/3 2329 VERT OUT
V7A 1/2 8LT8 HOR PHASE DET
V7B 1/2 8LT8 HOR OSC
V8A 1/2 33GY7A HOR OUT
V8B 1/2 33GY7A DAMPER
V9 1BC2B H.V. RECT
V10 SEE MODEL PAGE
PICTURE TUBE
T.P. II
T.P. III
T.P. IV
T.P. V
T.P. VI
+138V
+380V BOOST
+150V SOURCE
+130V SOURCE
+138V SOURCE
+110V SOURCE
+130V
VERT OUT OF SYNC BLANKING BAR IN CENTER OF RASTER
DEFLECTION YOKE
UHF ANT INPUT
UHF TUNER INPUT
NOT USED ON ALL MODELS
OPEN ON INSTA-VIEW MODELS
INSTA-VIEW SWITCH
VHF TUNER
TIMER ON OFF SWITCH
USED ON INSTA-VIEW MODELS WITH TIMER
USED ON SOME MODELS
TO CRT ANODE
TO YOKE TERM 5
TO YOKE TERM 1
TO CRT PIN 6
FROM HV RECT
FROM R216
TO C169
TO C170
TO C251
TO V7A PIN 6
TO V8A PIN 3
FROM C259
FROM V6A PIN 11
FROM L165 AUDIO TAKE OFF
FROM R154
FROM R163
FROM C168
FROM T251 PIN 2
FROM T251 PIN 4
FROM T25[illegible] PIN 3
TO R401
TO F403
TO C301
TO R154
TO R174
TO C[illegible]
TO T301
TO EARPHONE JACK
TO R[illegible]
TO C[illegible]
TO C[illegible]
TO C

SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R502	3.9 Ω	ES14X17
R503	330 Ω, ±5%, 5w	ES14X18
R504	150 Ω, ±5%, 5w	ES14X19
C504	capacitor, electro, 150 μf, 165v, 150 μf, 150v, 200 μf, 150v	ES31X26
C725	470P, ±20%, 1.4kv dc, 150vac	EP18X3
	control, vert lin & vert ht	ES49X36
D3	diode, dual, horiz AFC	ES57X6
L202	coil, quad	ES36X49
L301	coil, 47.25MHz trap	ES36X50
L401	coil, horiz, stab	ES36X56
T201	xformer, audio output	ES64X8
T302	xformer, video 1F detect	ES61X7
T303	xformer, audio 1F	ES61X8
T401	xformer, vert output	ES64X9
T403	xformer, horiz output	ES77X9
	deflect yoke	ES76X4
	fuse, 2a	ES10X9 (F101)
	thermistor (TH 1)	ES14X15
	tuner, UHF	ES85X7
	tuner, VHF	ES86X7



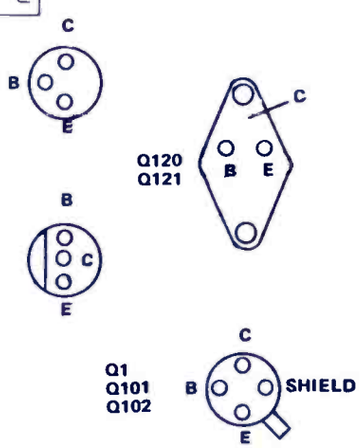


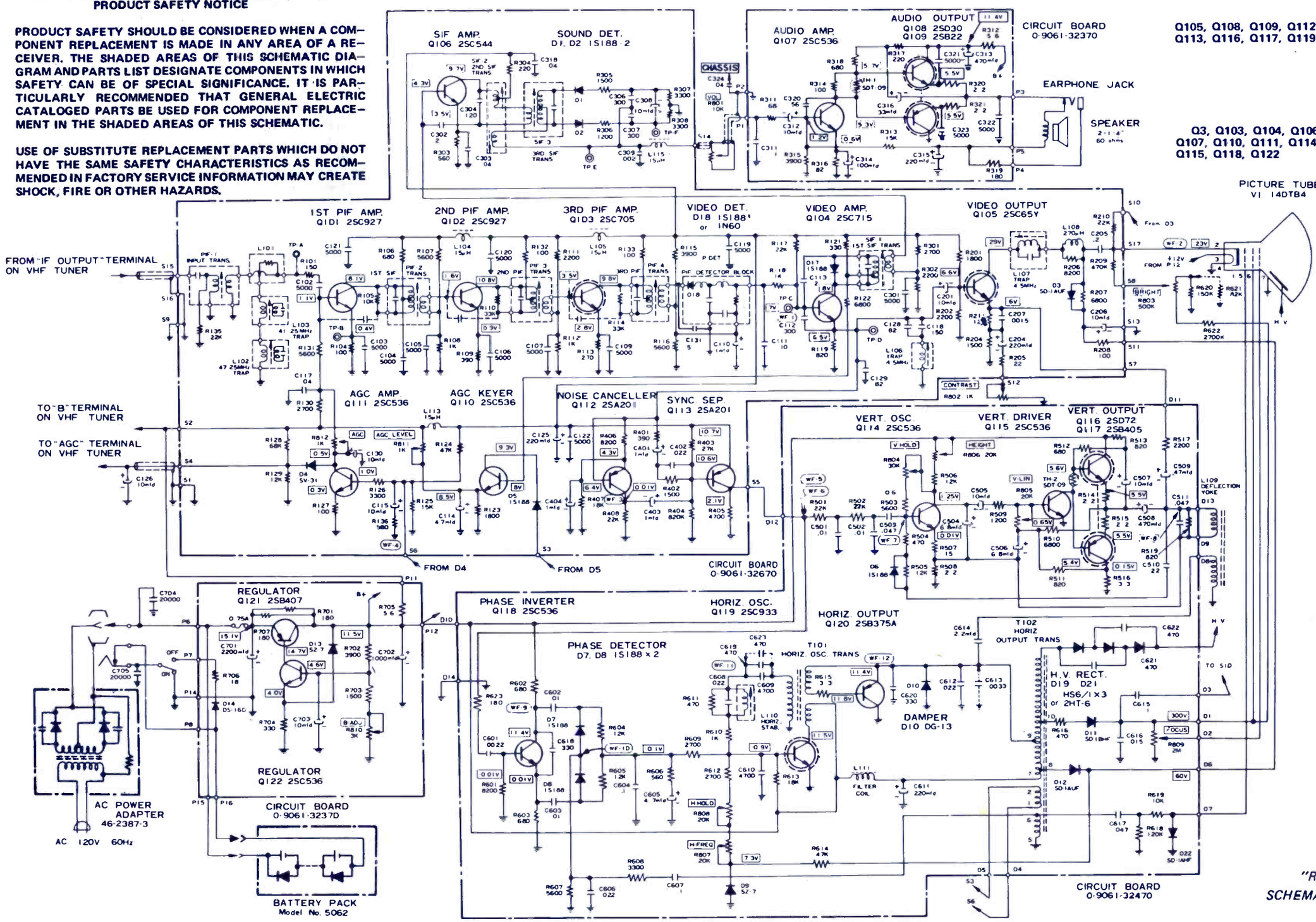
PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE SHADED AREAS OF THIS SCHEMATIC DIAGRAM AND 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.

TRANSISTOR BASE DIAGRAMS

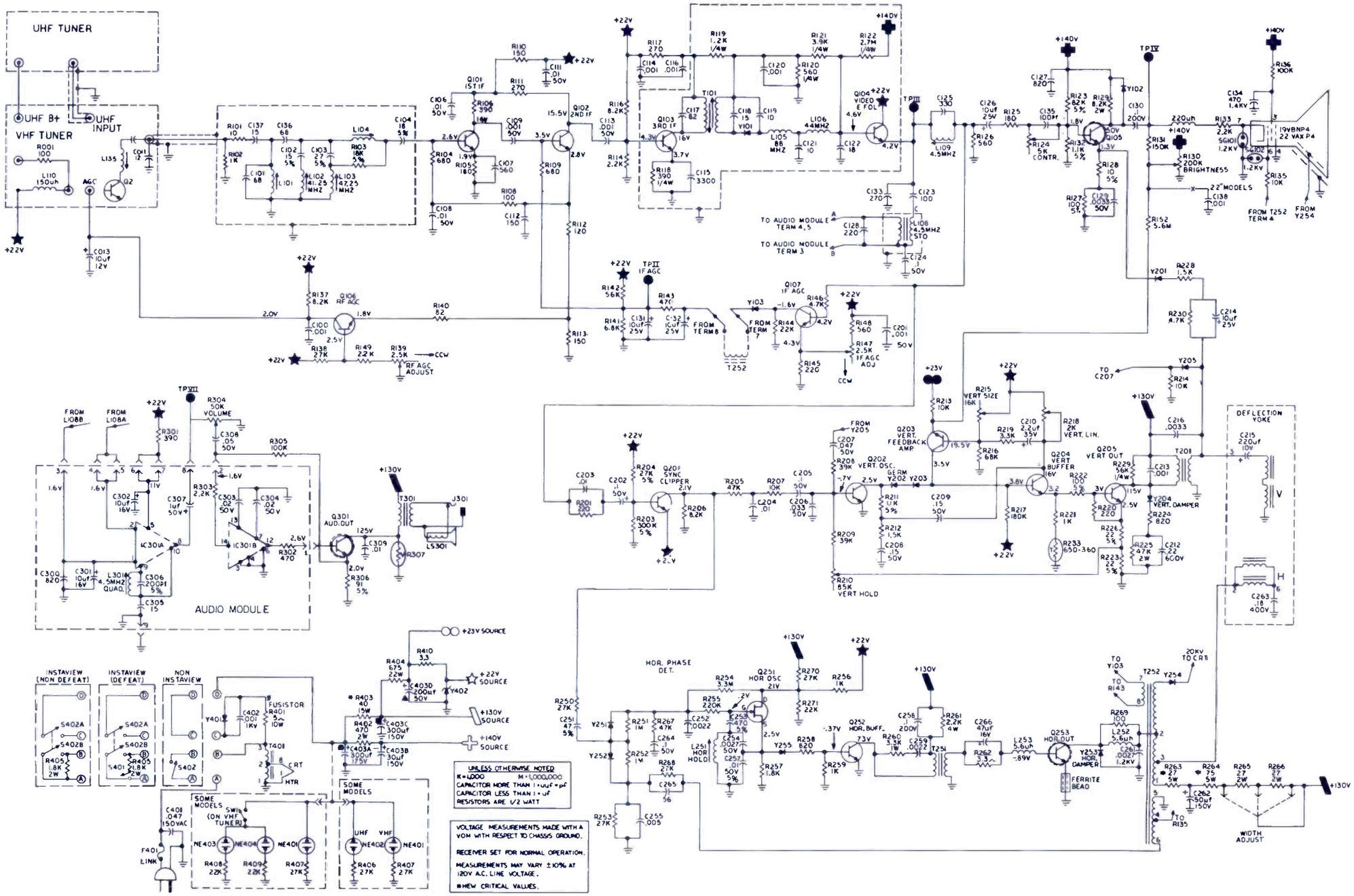




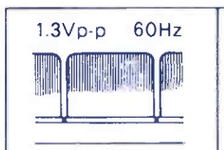
NOTES:

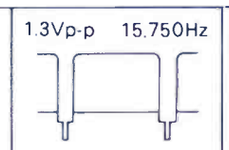
1. All resistance values in ohms K = 1,000 M = 1,000,000.
2. Unless otherwise noted in schematic, all capacitors less than 1 are expressed in mfd and the values larger than 1 are in pF.
3. Voltage reading taken with "VTVM" from point indicated to chassis ground. Tuner on unused channel, contrast at maximum, 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 too wide, clip the wire near C613 by using a nipper.
   This wire may have been opened in some chassis as a result of factory adjustment.

"R" CHASSIS SCHEMATIC DIAGRAM

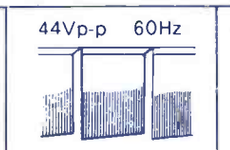

UHF TUNER
UHF B+
UHF INPUT
VHF TUNER
AGC
+22V
+140V
+23V
+130V
TP II IF AGC
TP III
TP IV
TP VII
RF AGC ADJUST
1F AGC ADJ
VOLUME
AUDIO MODULE
AUD. OUT
SYNC CLIPPER
VERT. OSC.
VERT. FEEDBACK AMP.
VERT OUT
VERT BUFFER
VERT. LIN.
VERT. DAMPER
VERT HOLD
VERT SIZE
HOR. PHASE DET.
HOR OSC
HOR. BUFF.
HOR. OUT
HOR. DAMPER
HOR HOLD
FERRITE BEAD
DEFLECTION YOKE
WIDTH ADJUST
BRIGHTNESS
22" MODELS
TO AUDIO MODULE TERM 4,5
TO AUDIO MODULE TERM 3
FROM TERM 8
FROM TERM 7
FROM T252 TERM 4
FROM Y254
TO Y103
TO R143
TO C207
TO R135
20KV TO CRT
+23V SOURCE
+22V SOURCE
+130V SOURCE
+140V SOURCE
INSTAVIEW (NON DEFEAT)
INSTAVIEW (DEFEAT)
NON INSTAVIEW
FUSISTOR
CRT
HTR
SOME MODELS
SW1 (ON VHF TUNER)
UHF
VHF
LINK
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
VOLTAGE MEASUREMENTS MADE WITH A VOM WITH RESPECT TO CHASSIS GROUND.
RECEIVER SET FOR NORMAL OPERATION.
MEASUREMENTS MAY VARY ±10% AT 120V A.C. LINE VOLTAGE.
* NEW CRITICAL VALUES.

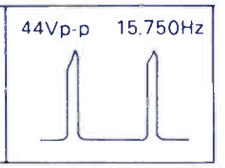
WF-1



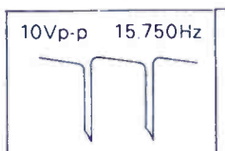


WF-2

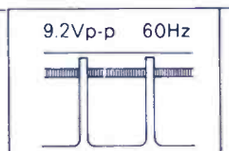


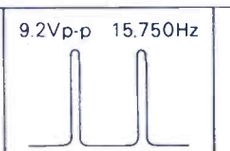


WF-3

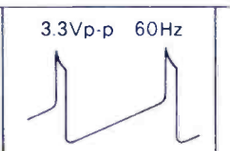


WF-4

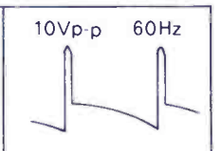




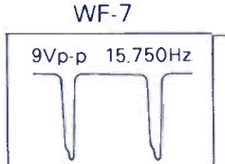
WF-5



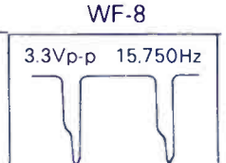
WF-6



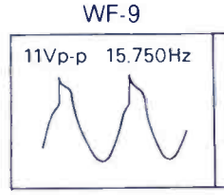
WF-7



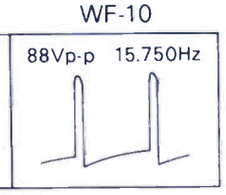
WF-8



WF-9



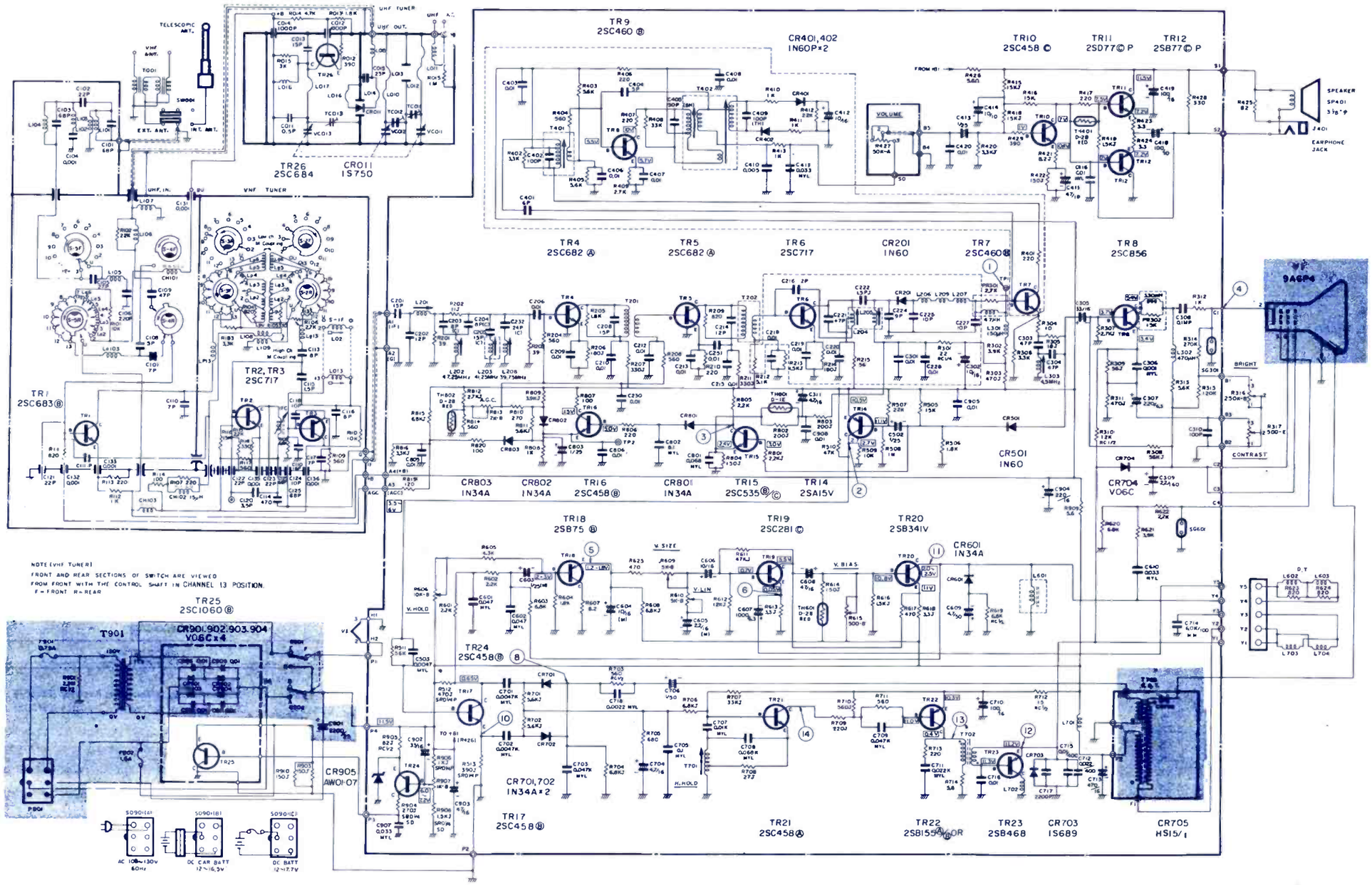
WF-10

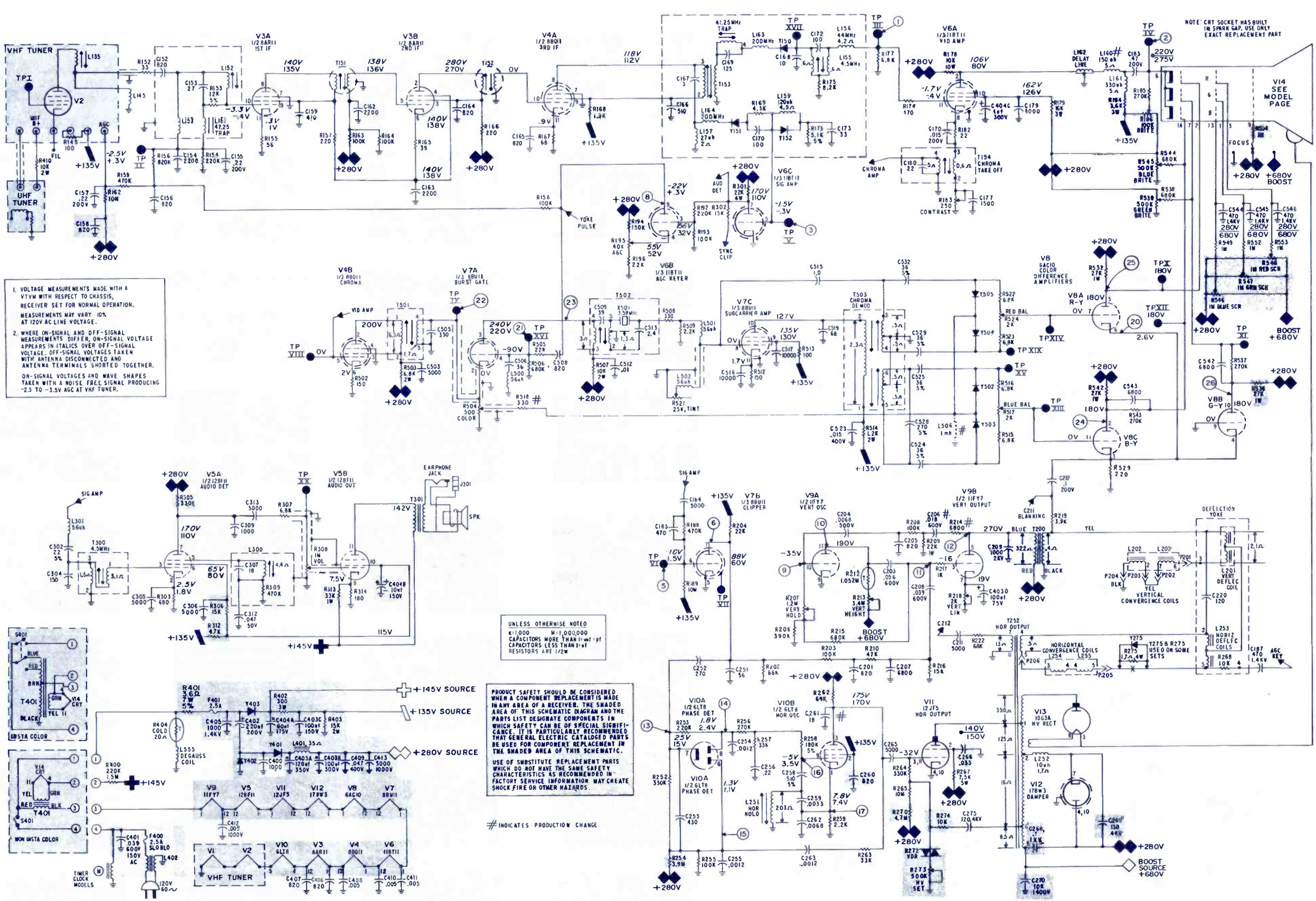


SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
L109	coil horiz osc	ES35X6
L110	coil horiz filter choke	ES36X93
L112	deflect yoke	ES76X7
T102	xformer 47.25MHz trap	ES36X97
T108	xformer 4.5MHz trap	ES36X104
T109	xformer 4.5MHz	ES36X66
T110	xformer audio take off	ES61X14
T111	xformer audio detect	ES61X15
T112	xformer audio detect	ES56X3
T115	xformer HV assembly	ES77X13
T116	xformer power	ES88X3
	fuse .75A fast blo F701	ES10X8
	fuse 1.6a slo blo F702	ET10X6
	fuse 6a fast blo F703	ES10X14
	tuner UHF	ES85X11
	tuner VHF	ES86X14

GENERAL ELECTRIC
TV Chassis R-2
(Late Production)

SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R901	2.2M ½w 10%	ES14X53
C901	2200µf 10% 25v	ES31X37
L204	IF	ES36X72
L206	filter	ES36X73
L207	filter	ES36X74
L701	horiz filter	ES36X48
L702	horiz filter	ES36X78
T701	horiz osc	ES35X5
T702	horiz drive	ES51X4
T703	horiz output xformer	ES77X11
T901	power xformer	ES88X2
	deflect yoke	ES76X5
	fuse .75Z	ES10X6
	fuse 1.6A	ES10X5
	tuner VHF	ES86X13





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 mf
RESISTORS ARE 1/2W

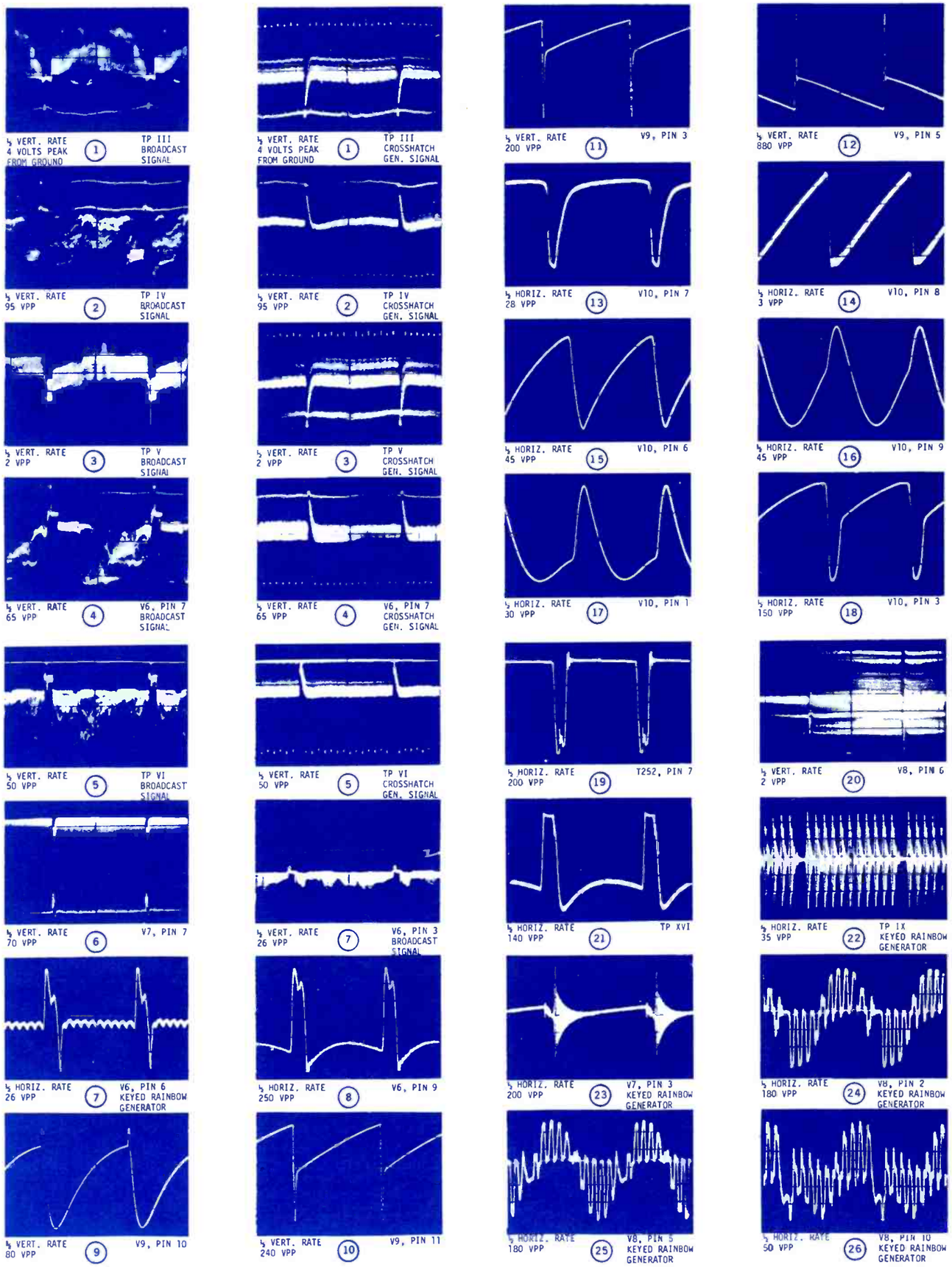
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE SHADED AREA OF THIS SCHEMATIC DIAGRAM AND THE PARTS LIST DESIGNATE COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT GENERAL ELECTRIC CATALOGED PARTS BE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

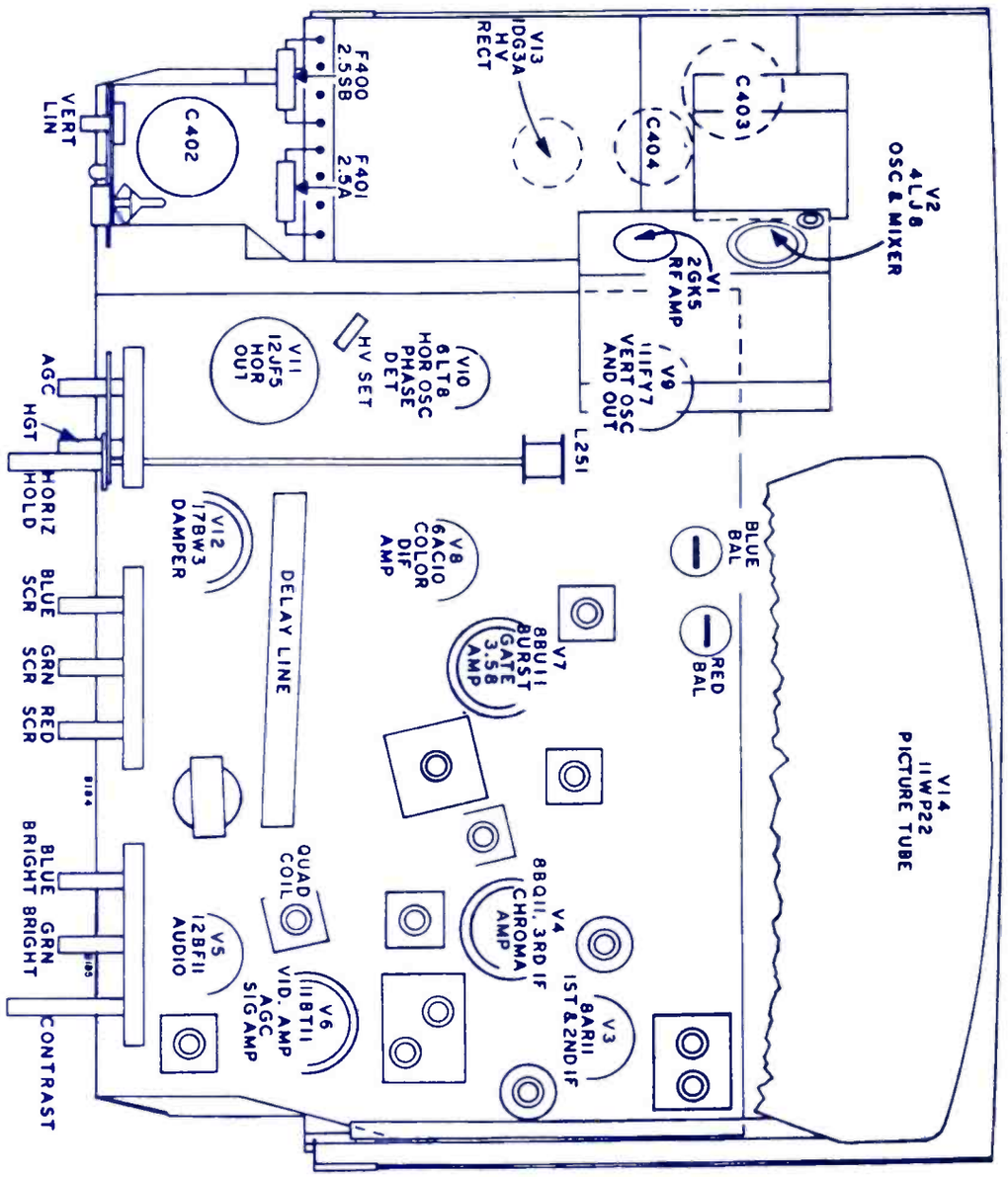
INDICATES PRODUCTION CHANGE

GENERAL ELECTRIC
Color-TV Chassis
HD/H4

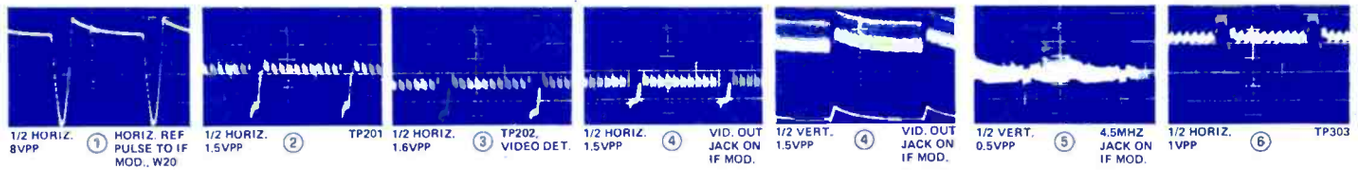
WAVEFORMS FOR POINTS INDICATED

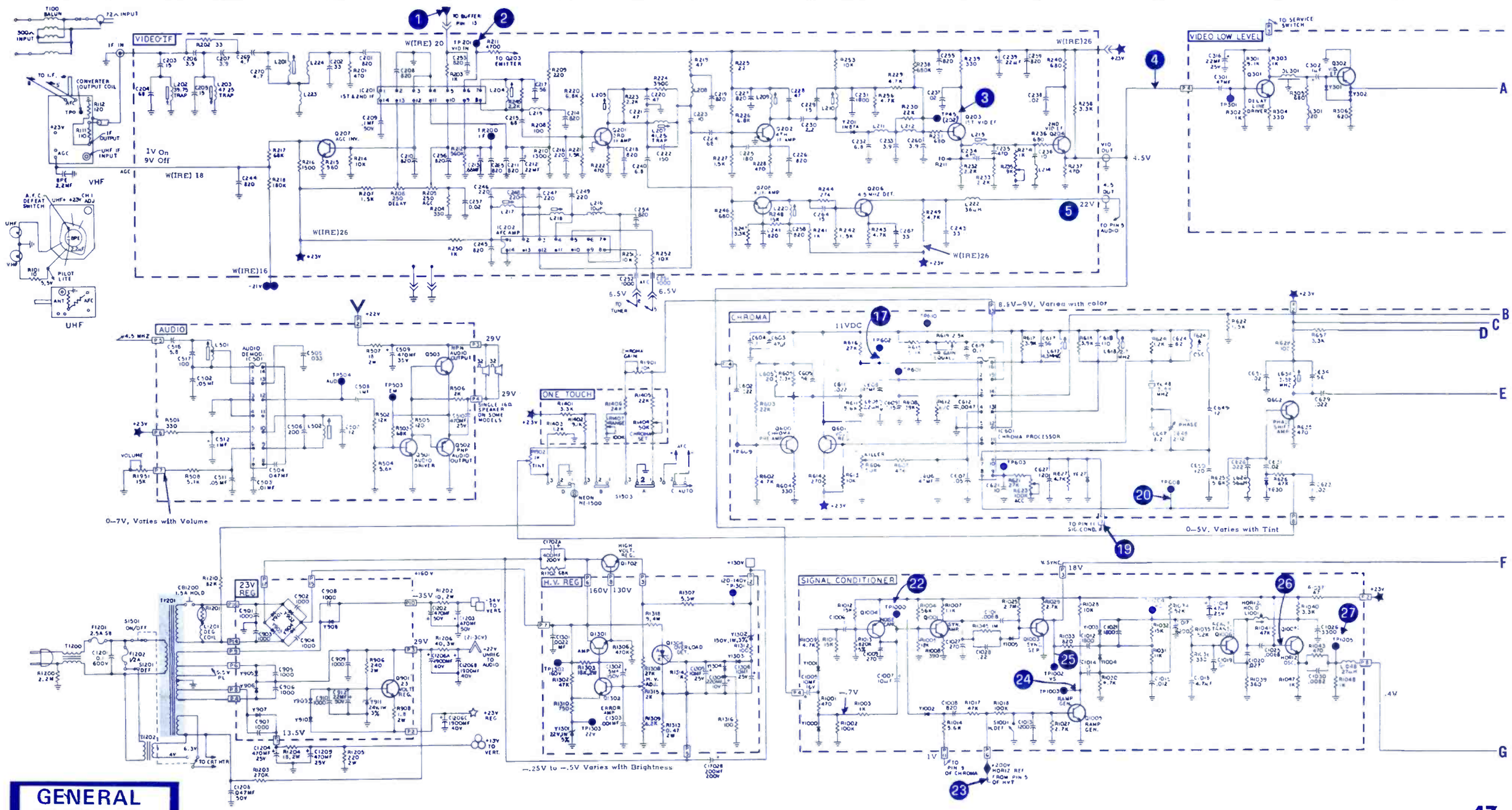


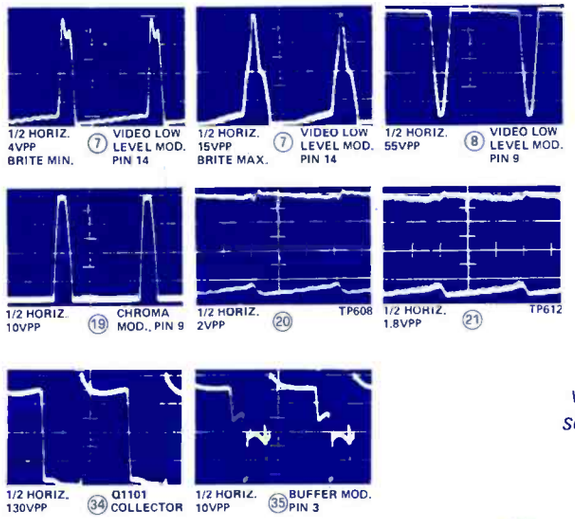
TUBE AND ADJUSTMENT LOCATOR

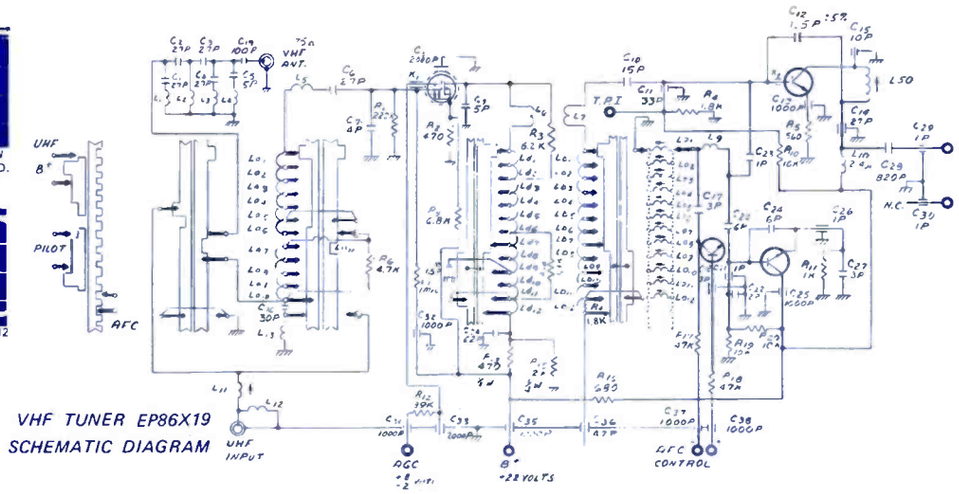


SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R212	thermistor, 1.052M	EP14X206
R272	VDR, 1ma @ 850 ± 15%	EP13X2
	triple control	EP49X592
R183	250 Ω, contrast	
R539	500K, green brightness	
R545	500K, blue brightness	
	dual control	EP49X593
R195	40K, AGC	
R213	3.4M, vertical height	
R218	2K, vertical linearity	EP49X590
R273	HV set, 500K	EP49X42
	triple control	EP49X591
C403A	120 μf, +100–10%, 350v	EP31X265
C403B	100 μf, +100–10%, 300v	
C403C	100 μf, +100–10%, 150v	
C403D	100 μf, +100–10%, 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
L201	deflection yoke–Horiz & vert.	EP76X4
L251	coil, horiz osc, w/core	ET35X52
L300	coil, audio detector, w/core	EP36X52
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, 4.5 MHz, interstage, w/core	EP36X813
T301	xformer, audio output	ET64X105
T501	xformer, chroma amp output, w/cores	EP61X173
T502	xformer, crystal filter, w/cores	EP61X174
T503	xformer, chroma demodulator, w/cores	EP61X175
	fuse, 2½ a, slow-blow, F400	EP10X11
	fuse, 2½ a, fast-blow, F401	EP10X47


1/2 HORIZ. 8VPP ① HORIZ. REF PULSE TO IF MOD., W20
1/2 HORIZ. 1.5VPP ② TP201
1/2 HORIZ. 1.6VPP ③ TP202, VIDEO DET.
1/2 HORIZ. 1.5VPP ④ VID. OUT JACK ON IF MOD.
1/2 VERT. 1.5VPP ④ VID. OUT JACK ON IF MOD.
1/2 VERT. 0.5VPP ⑤ 4.5MHZ JACK ON IF MOD.
1/2 HORIZ. 1VPP ⑥ TP303
1/2 HORIZ. 6VPP ⑨ TP304
1/2 VERT. 6VPP ⑨ TP304
1/2 HORIZ. 6VPP ⑩ VIDEO LOW LEVEL MOD. PIN 10
1/2 VERT. 6VPP ⑩ VIDEO LOW LEVEL MOD. PIN 10
1/2 HORIZ. 150VPP ⑪ RGB MOD. CRT RED CATH. TERM.
1/2 HORIZ. 80VPP ⑫ RGB MOD. CRT GREEN CATH. TERM.
1/2 HORIZ. 150VPP ⑬ RGB MOD. CRT BLUE CATH. TERM.
1/2 HORIZ. 5VPP ⑭ CHROMA MOD., PIN 4
1/2 HORIZ. 2VPP ⑮ CHROMA MOD., PIN 3
1/2 HORIZ. 5VPP ⑯ CHROMA MOD., PIN 5
1/2 HORIZ. 3VPP ⑰ TP602
1/2 HORIZ. 1VPP ⑱ TP605
1/2 HORIZ. 0.6VPP ㉒ TP1000
1/2 HORIZ. 200VPP ㉓ SIGNAL COND. MOD., PIN 6
1/2 HORIZ. 8VPP ㉔ TP1003
1/2 HORIZ. 22VPP ㉕ TP1002
1/2 HORIZ. 7VPP ㉖ Q1007 BASE
1/2 HORIZ. 1.3VPP ㉗ TP1005
1/2 VERT. 1VPP ㉘ Q702 BASE
1/2 VERT. 1VPP ㉙ Q702 COLLECTOR
1/2 VERT. 45VPP ㉚ TP704
1/2 VERT. 1VPP ㉛ TP705
1/2 HORIZ. 30VPP ㉜ BUFFER MOD. PIN 8
1/2 HORIZ. 1.2VPP ㉝ BUFFER MOD. PIN 4

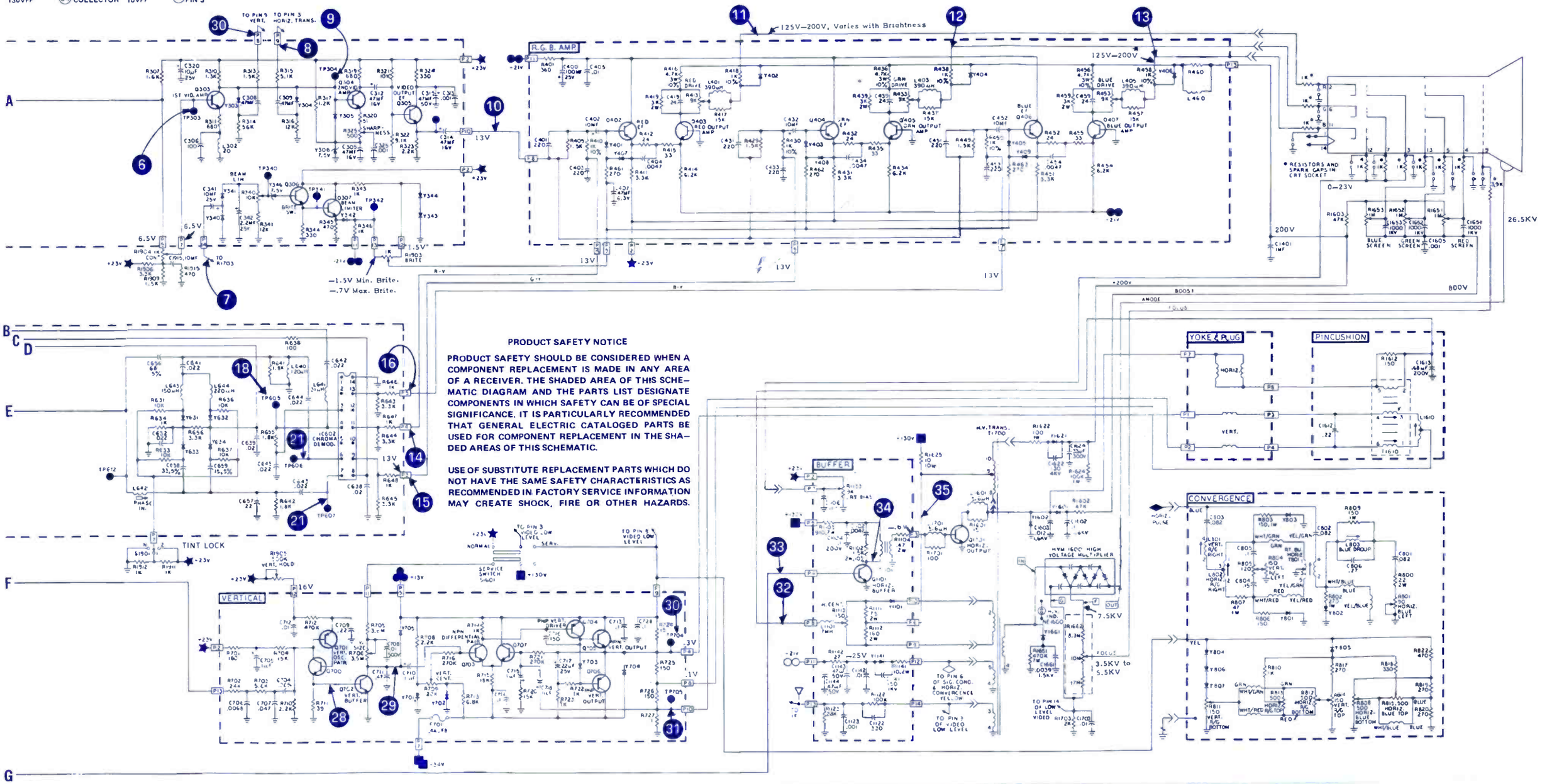

VIDEO IF
VHF
UHF
AUDIO
ONE TOUCH
CHROMA
SIGNAL CONDITIONER
VIDEO LOW LEVEL
23V REG
H.V. REG
IC201 1ST & 2ND IF
IC202 AFC AMP
IC501 AUDIO DEMOD.
IC601 CHROMA PROCESSOR
0–7V, Varies with Volume
0–5V. Varies with Tint
–.25V to –.5V Varies with Brightness
GENERAL ELECTRIC
Color-TV Chassis
MA





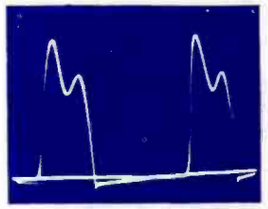
VHF TUNER EP86X19
SCHEMATIC DIAGRAM

SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R1201	degaussing switch	EP39X4
R205	IF AGC, 250 Ω	EP49X142
R206	RF AGC, 250 Ω	EP49X142
R325	peaking, 500 Ω	EP49X140
R340	brite limit, 10K	
R413	red drive	
R433	green drive	EP49X141
R453	blue drive	
R606	killer adj, 50K	EU49X35
R619	chroma gain equal, 2.5K	ES49X628
R623	ACC adj 100K	EP49X143
R706	vert size, 3.5M	EP49X144
R1113	horiz centering, 150 Ω	EP49X147
R1133	CRT bias	EP49X148
R1315	H V adj, 2K	EP49X90
R1651	red screen, 1M	
R1652	green screen, 1M	EP49X131
R1653	blue screen, 1M	
C1206A	1900 μ f, +100–10%, 40v	EP31X42
C1206B	1900 μ f, +100–10%, 40v	
C1206C	1900 μ f, +100–10%, 40v	
L207	41.25MHz trap	EP36X92
L215	4.5MHz trap	EP36X111
L222	choke	ES36X751
L501	audio take-off	EP36X106
L502	quad	EP36X107
L617	chroma, 4.3MHz	EP36X112
L634	phase, 3.58MHz	EP36X112
L642	chroma phase	EP36X112
L1001	horiz. osc. (Hold)	EP35X2
T1200	power line choke	EU36X856
T1201	power xformer	EP62X34
T1202	CRT filament	EP64X22
T1700	high voltage	EP77X13
IC201	IF	EP84X1
IC202	AFC	EP84X5
IC501	audio	EP84X6
IC601	chroma processor	EP84X7
IC602	chroma demod.	EP84X3
	tripler, H. V. (H. V. M. 1600)	EP62X41
	yoke, deflection	EP766X10

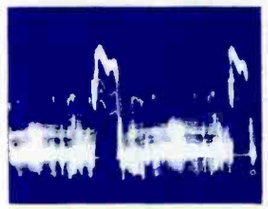




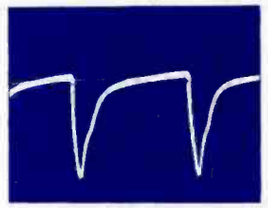
1-2 HORIZ. RATE 3.5 VPP ① TP 111 OFF-THE-AIR SIGNAL



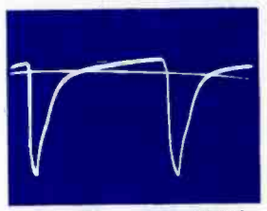
1-2 HORIZ. RATE 180 VPP ② V6, PIN 7 OFF-THE-AIR SIGNAL



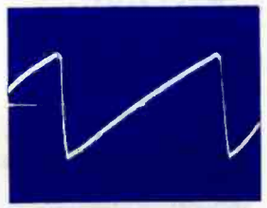
1-2 HORIZ RATE 12 VPP ③ V6, PIN 5 OFF-THE-AIR SIGNAL



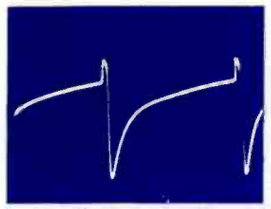
1-2 HORIZ. RATE 75 VPP ④ V8, PIN 7 OFF-THE AIR SIGNAL



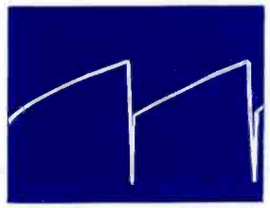
1-2 HORIZ. RATE 34 VPP ⑤ V10, PIN 7 OFF-THE-AIR SIGNAL



1-2 HORIZ. RATE 8 VPP ⑥ V10, PIN 8 OFF-THE-AIR SIGNAL



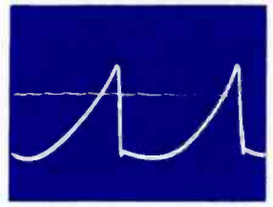
1-2 VERT. RATE 80 VPP ⑦ V11, PIN 10 OFF-THE-AIR SIGNAL



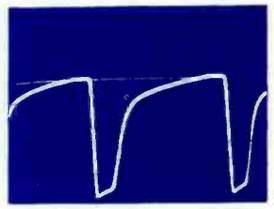
1-2 VERT. RATE 210 VPP ⑧ V11, PIN 11 OFF-THE-AIR SIGNAL



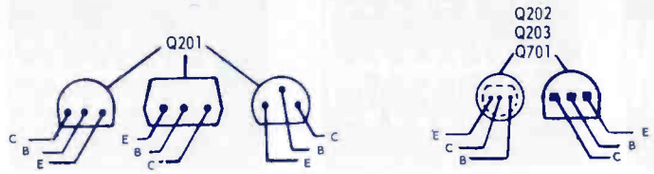
1-2 VERT RATE 85 VPP ⑨ P102, PIN 1 OFF-THE-AIR SIGNAL



1-2 VERT. RATE 18 VPP ⑩ V11, PIN 7 OFF-THE-AIR SIGNAL

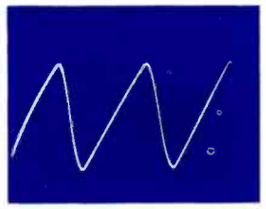


1-2 HORIZ. RATE 270 VPP ⑪ V14, PIN 5 OFF-THE-AIR SIGNAL

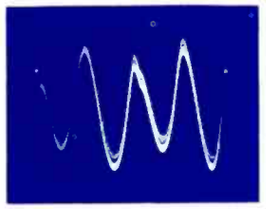


TRANSISTORS--BOTTOM VIEWS

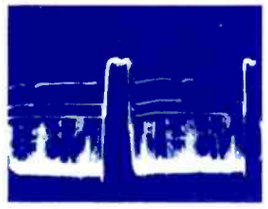
GENERAL ELECTRIC
Color-TV
Chassis KE-11/EB



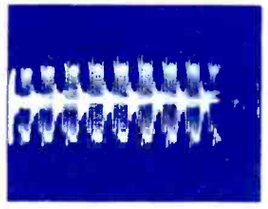
1:2 VERT. RATE
22 VPP
C 151 A
(12)



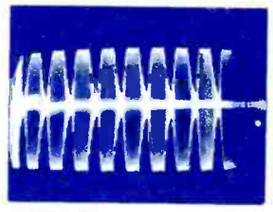
1:2 VERT. RATE
1.5 VPP
C 151 B
(13)



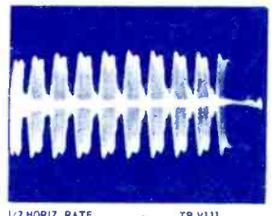
1:2 HORIZ. RATE
120 VPP
R466
(14)



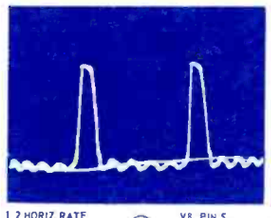
1 2 HORIZ. RATE
110 V PP
(15)
V12, PIN 5
KEYED RAINBOW
GENERATOR



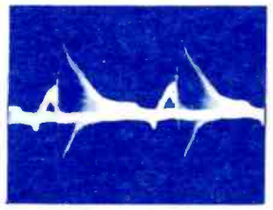
1 2 HORIZ. RATE
6 VPP
(16)
V12, PIN 3
KEYED RAINBOW
GENERATOR



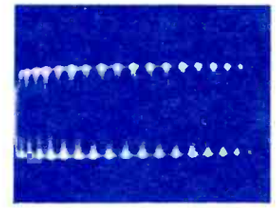
1/2 HORIZ. RATE
40 VPP
(17)
TP V111
KEYED RAINBOW
GENERATOR



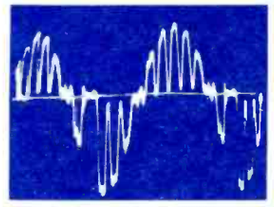
1 2 HORIZ RATE
120 VPP
(18)
V8, PIN 5
KEYED RAINBOW
GENERATOR



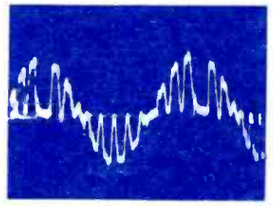
1 2 HORIZ. RATE
200 VPP
(19)
V8, PIN 6
KEYED RAINBOW
GENERATOR



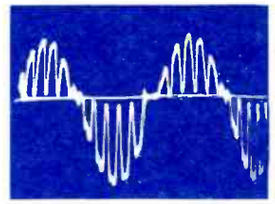
1 2 HORIZ. RATE
100 VPP
(20)
V12, PIN 8
KEYED RAINBOW
GENERATOR



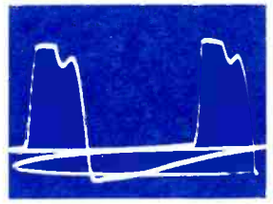
1 2 HORIZ. RATE
270 VPP
(21)
TPX1X
KEYED RAINBOW
GENERATOR



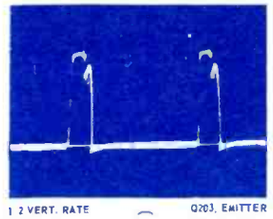
1 2 HORIZ. RATE
70 VPP
(22)
TPXX
KEYED RAINBOW
GENERATOR



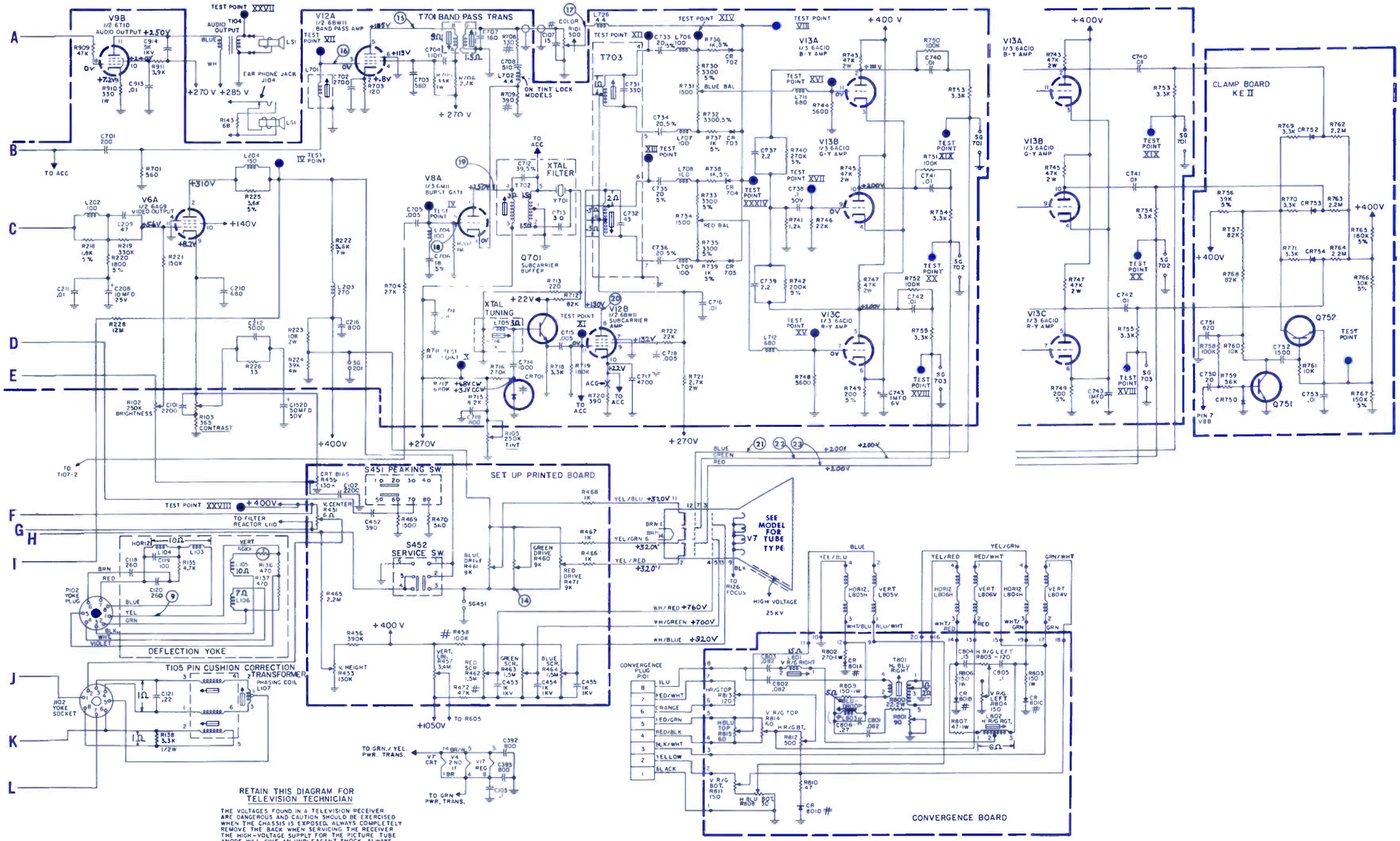
1 2 HORIZ. RATE
260 VPP
(23)
TPXVIII
KEYED RAINBOW
GENERATOR

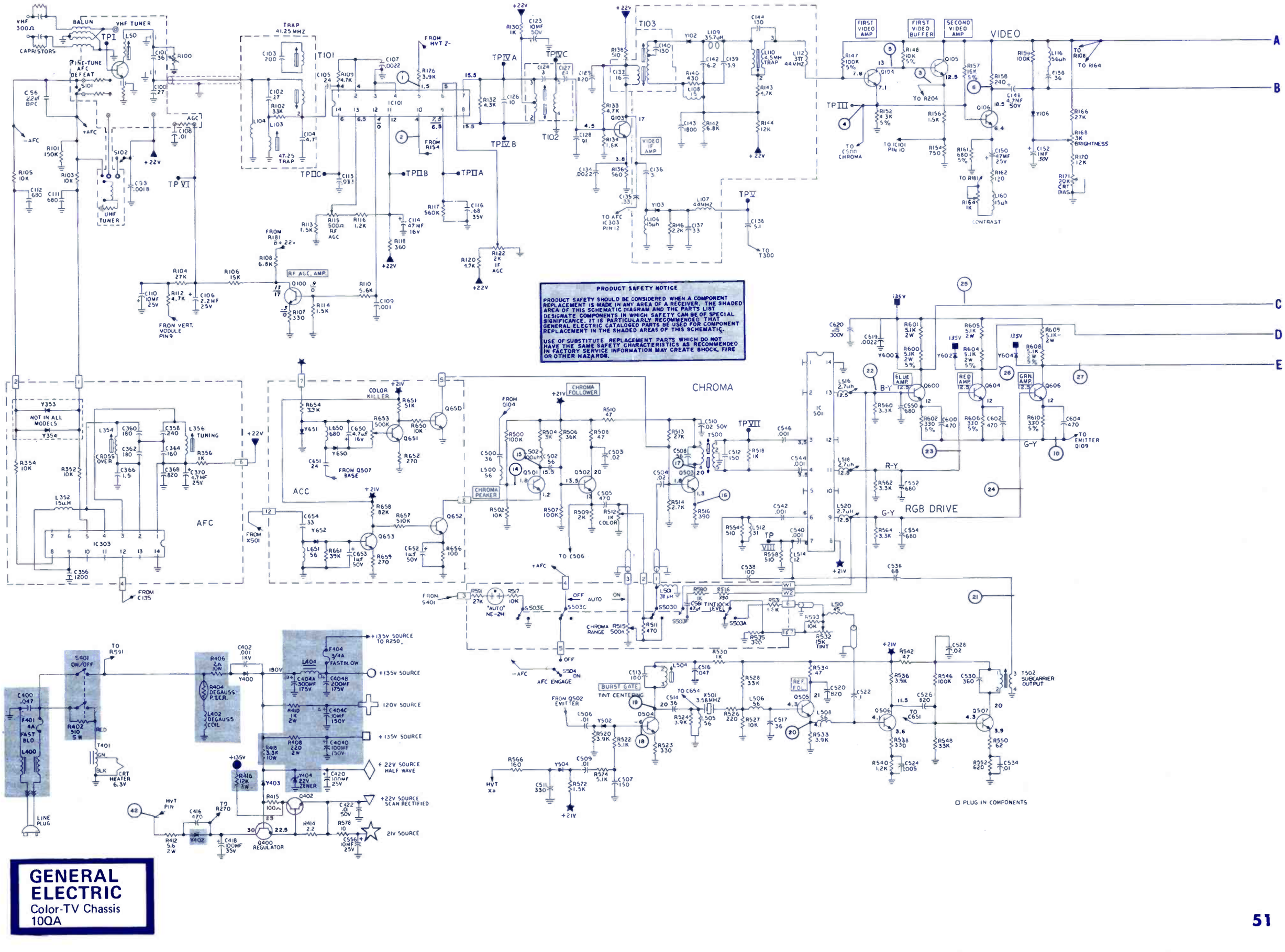


1 2 HORIZ. RATE
28 VPP
(24)
Q203, BASE
OFF-THE-AIR
SIGNAL



1 2 VERT. RATE
Q203, EMITTER

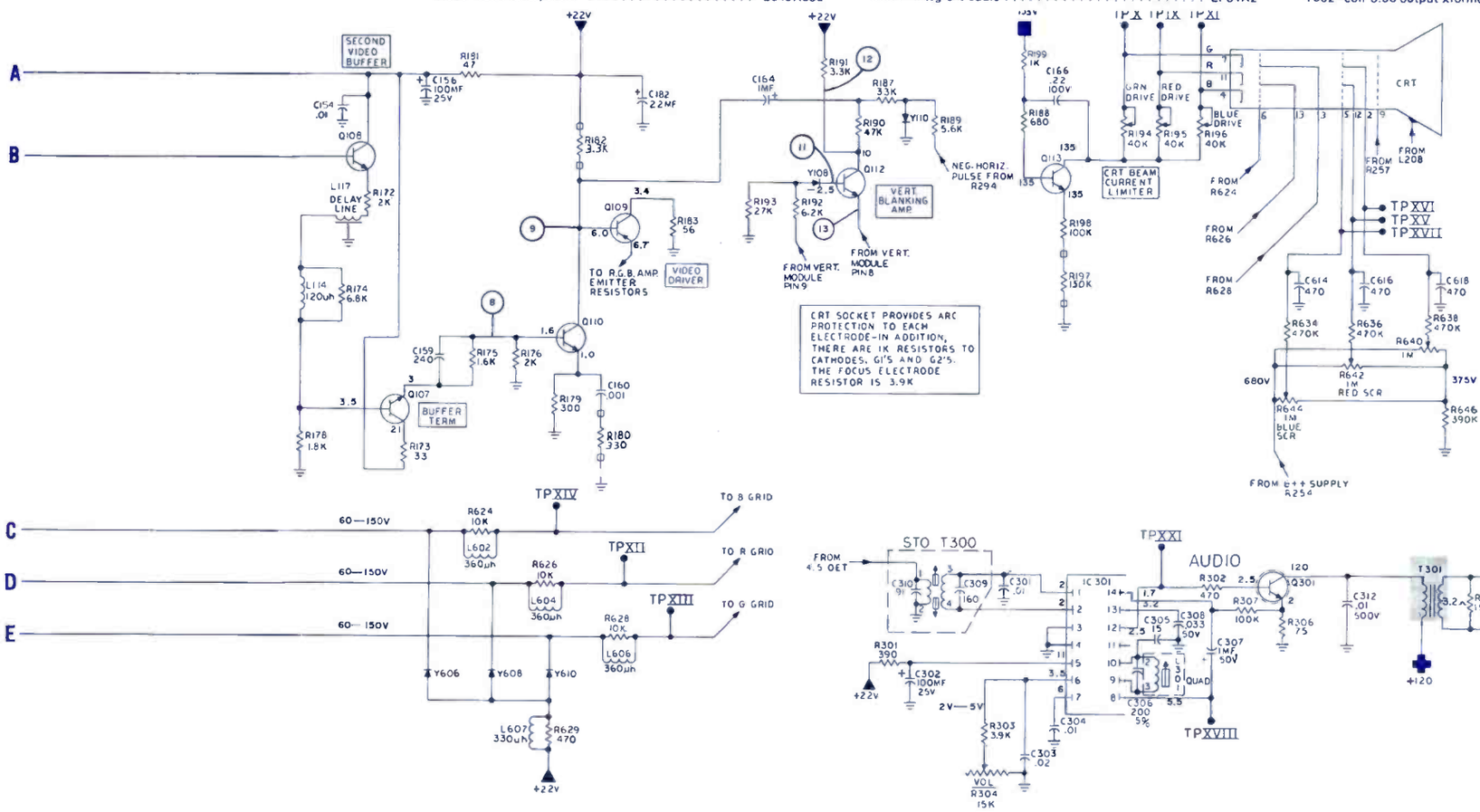


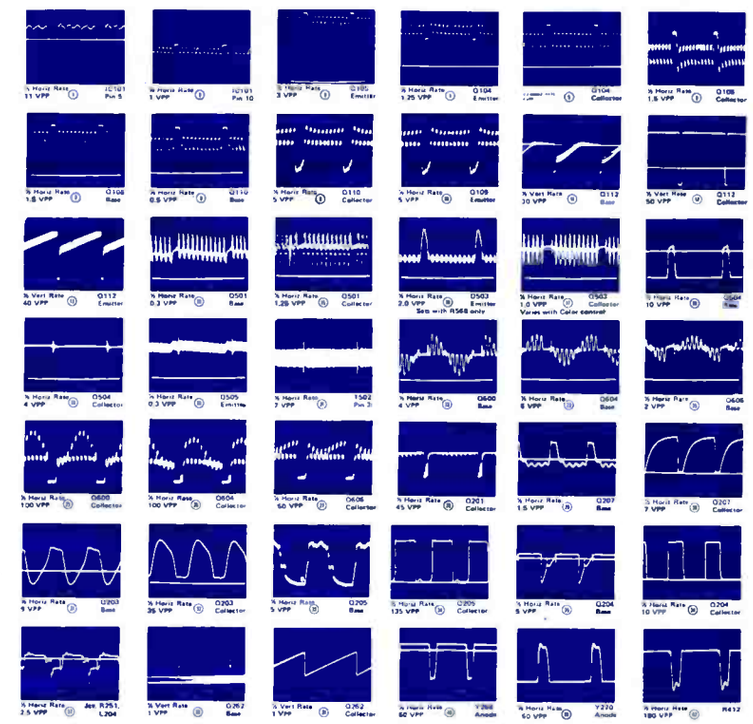


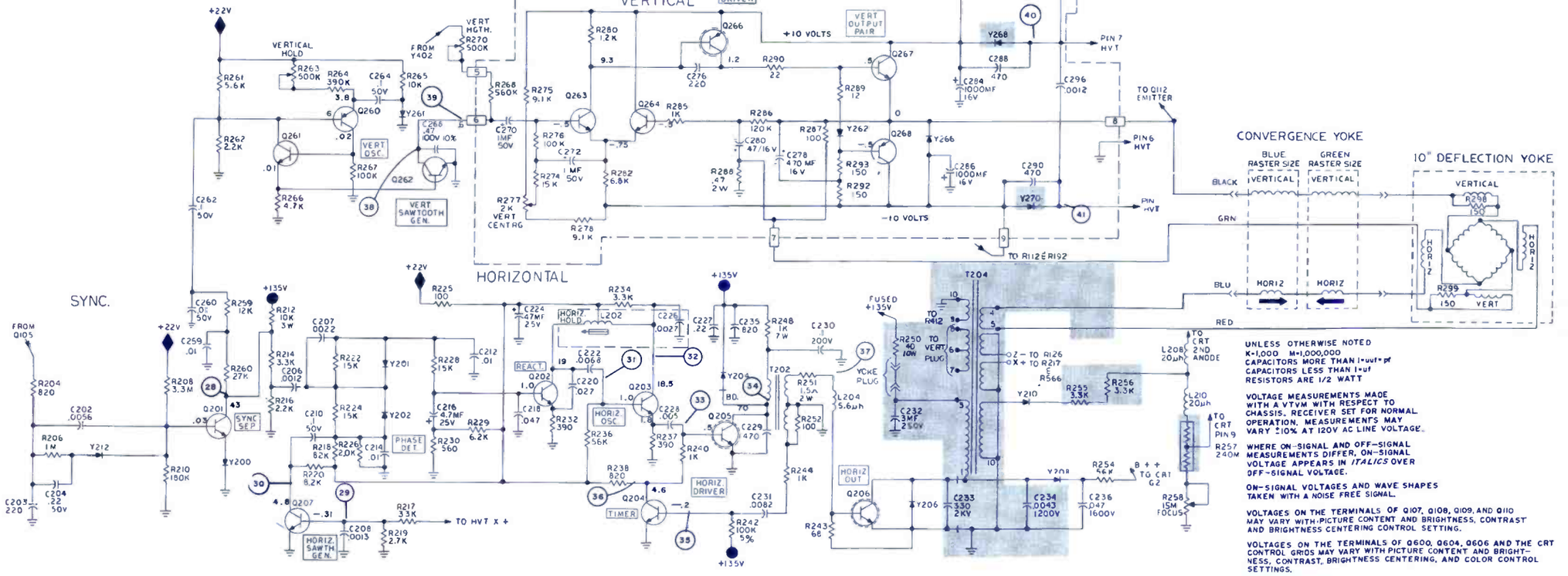
GENERAL ELECTRIC
Color-TV Chassis
10QA

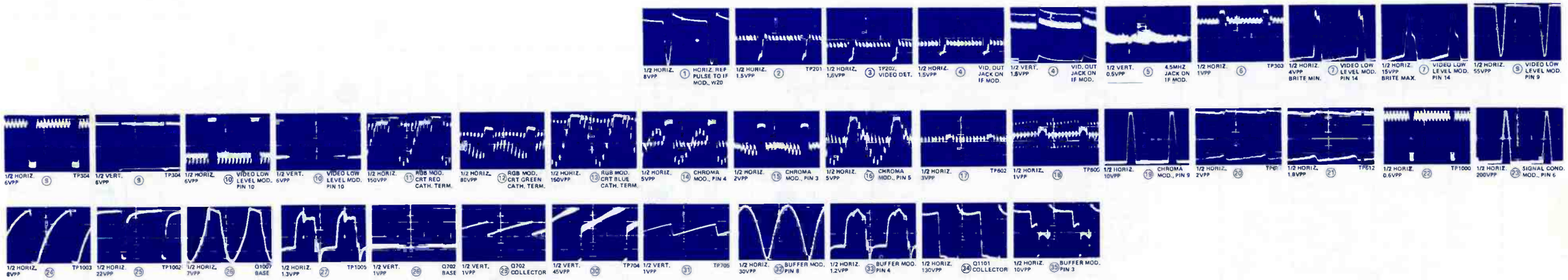
GENERAL ELECTRIC
Color-TV Chassis
10QA

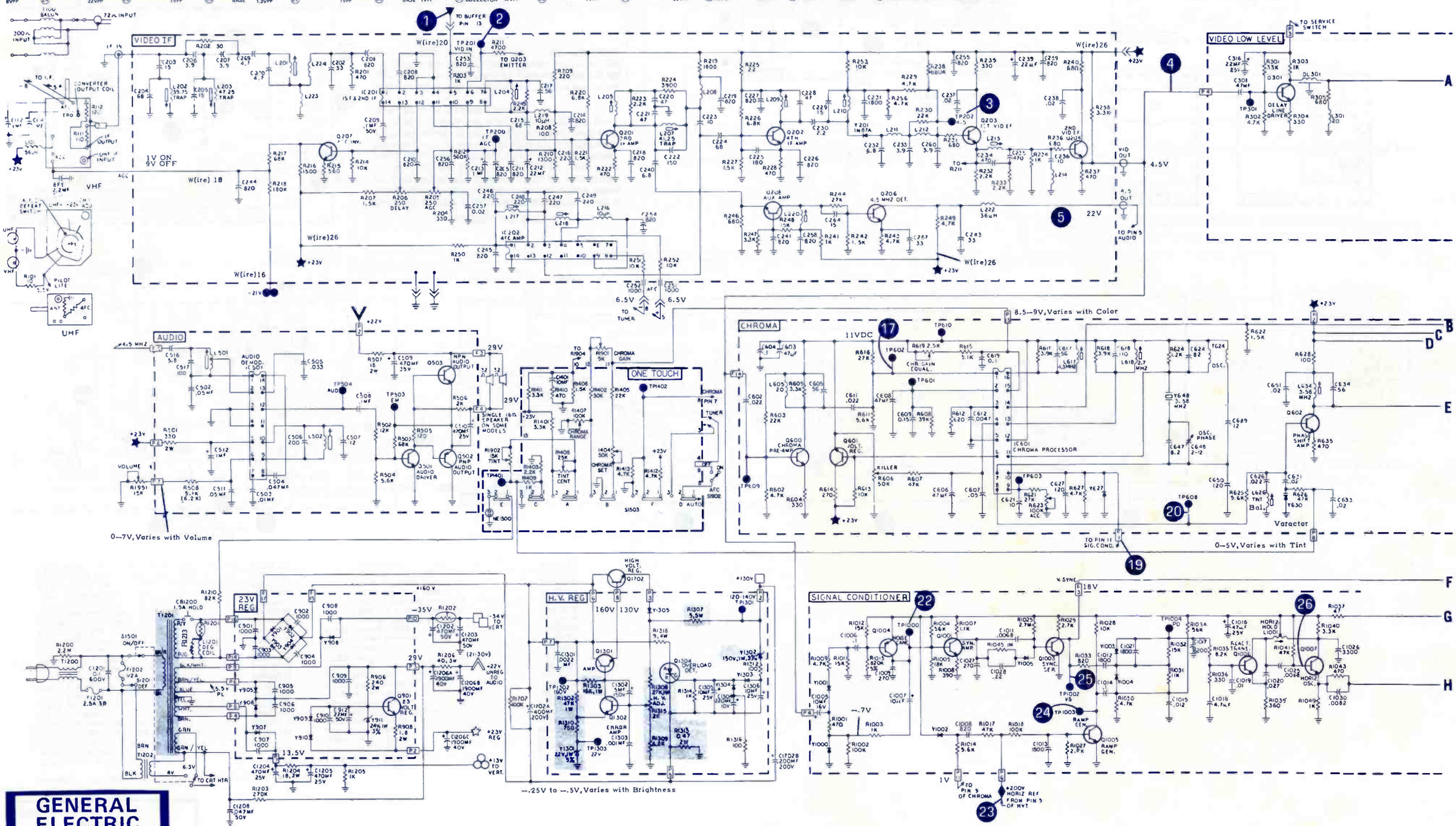
SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R115	RF AGC 500Ω, 20% dual control	EP49X92 / EP49X94
R122	1F AGC, 2K	
R196	blue drive, 40K dual control	EP49X95
R263	vert hold, 500K	
R270	vert height, 500K	
R277	vert center, 2K	EP49X90
R515	chroma range 500Ω	EP49X159
R653	color killer, 500K	ES49X535
C404A	300μf, 175v	EP31X28
C404B	200μf, 175v	
C404C	10μf, 150v	
C404D	100μf, 150v	
L112	coil, 44MHz trap	EP36X4
	conv yoke assembly	EP62X32
L202	coil horiz osc w/core	EP36X55
L301	coil quad w/core	EP36X83
IC101	integ ckt IF, AGC	EP84X1
IC301	integ ckt audio	EP84X2
IC303	integ ckt AFC mod	EP84X4
IC501	integ ckt demod	EP84X3
	fuse 4a fast blo F401	EP10X52
	fuse 5a fast blo F404	EP10X3
T202	xformer horiz buffer	EP64X19
T204	HV xformer, w/air gap	EP77X11
T301	xformer audio output	ET64X105
T401	xformer filament	EP64X21
T500	xformer chroma bandpass	EP61X14
T502	coil 3.58 output xformer w/core	EP36X84











GENERAL ELECTRIC
Color-TV Chassis
25MB

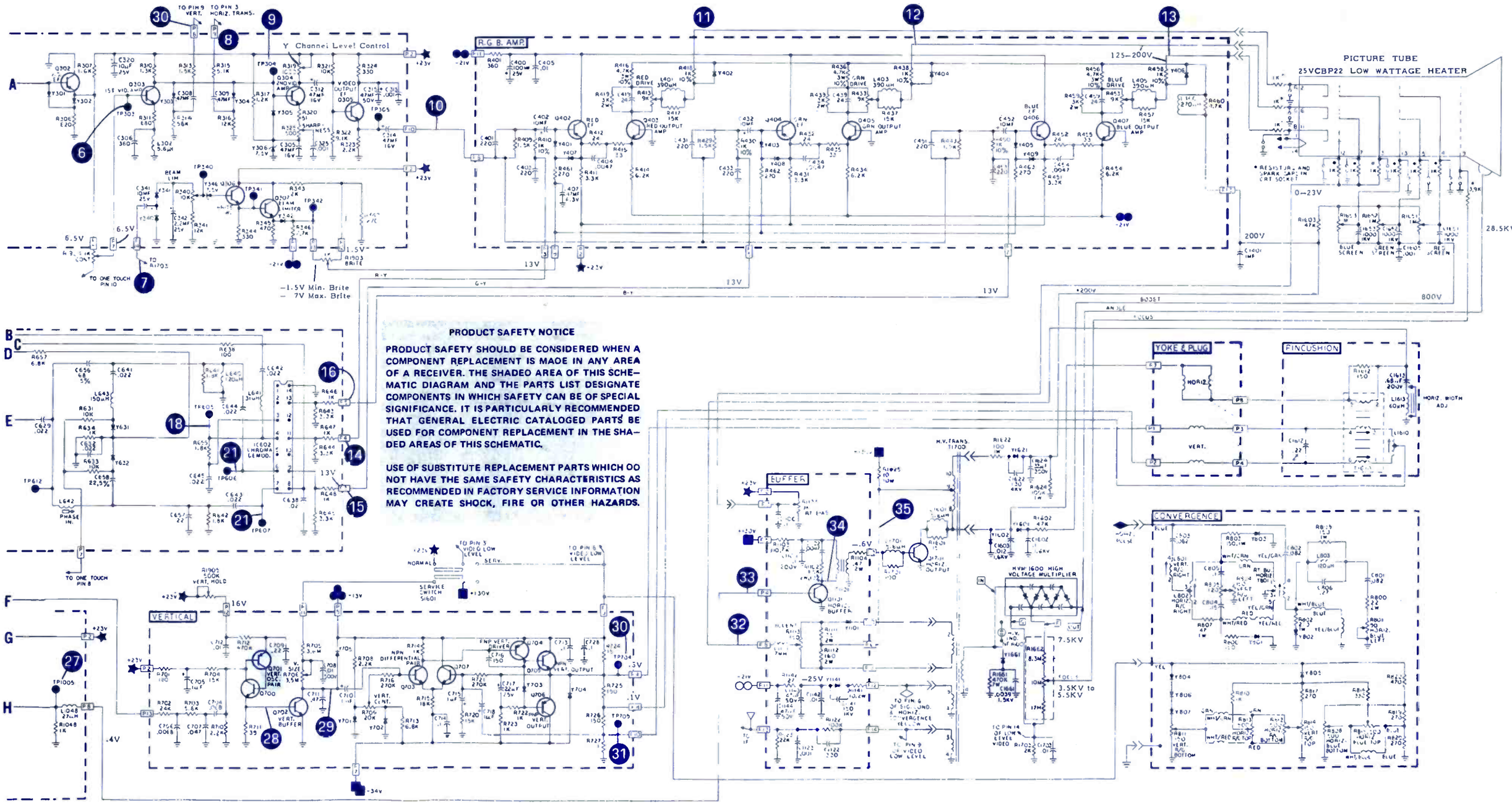
GENERAL ELECTRIC
Color-TV Chassis
25MB

SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R1625	10 Ω, 10%, 10w	EP14X52
R1661	470K, 10%, 7w	EP14X57
R205	IF AGC, 250 Ω, 20%	EP49X142
R206	RF AGC, 250 Ω, 20%	EP49X142
R340	brite limit, 10K, 20%	EP49X140
R413	red drive	EP49X141
R433	green drive	EP49X141
R453	blue drive	EP49X141
R606	killer adj 50K, 20%	EU49X35
R619	chroma gain equal 5K, 30%	ES49X627
R623	ACC adj 100K, 20%	EP49X143
R706	vert size, 3.5M	EP49X144
R709	vert center	
R1113	horiz center 150 Ω	EP49X147
R1133	CRT bias	EP49X148
R1404	chroma set 50K	EU49X35
R1408	tint center 20K	EP49X96
R1662	focus pot asm	EP62X42
L207	41.25MHz trap	EP36X92
L215	4.5MHz trap	EP36X111
DL301	delay line	EP36X105
L502	quad	EP36X107
L617	chroma, 4.3MHz	EP36X112
L618	chroma 2.7MHz	EP36X112
L626	coil tint bal adj	EP36X112
L634	phase, 3.58MHz	EP36X112
L642	chroma phase	EP36X112
L1001	horiz osc hold	EP35X2
L1610	pincushion phasing coil	EP36X74
T624	3.58MHz osc	EP36X113
T1201	power xformer	EP62X34
T1202	CRT filament	EP64X22
T1700	high voltage	EP77X13
IC201	IF	EP84X1
1C202	AFC	EP84X5
IC501	audio	EP84X6
IC601	chroma processor	EP84X7
IC602	chroma demod	EP84X3
	fuse .4a 250v fast blo F701	EP10X18
	fuse 2.5a 125v slo blo F1201	EP10X13
	fuse .5a 250v fast blo F1202	ES10X43
	tripler HV HVM 1600	EP62X41
	tuner VHF solid state	EP86X19
	tuner UHF solid state	EP85X13
	Yoke deflect	EP76X10

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.



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

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 mf = pf
CAPACITORS LESS THAN 1 mf
RESISTORS ARE 1/2W

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.

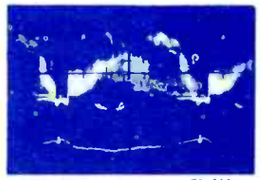
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK FIRE OR OTHER HAZARDS.

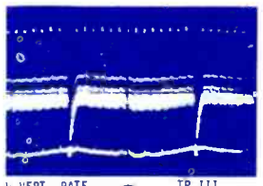
73W300037 REV. 4

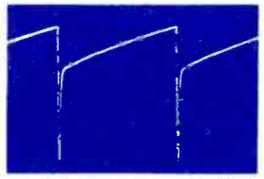
GENERAL ELECTRIC
Color-TV Chassis
10HE

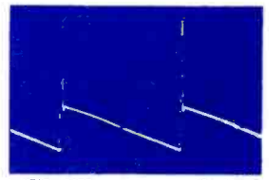
GENERAL ELECTRIC
Color-TV Chassis
10HE

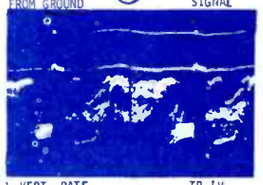
WAVEFORMS FOR POINTS INDICATED

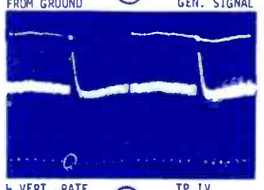

½ VERT. RATE
4 VOLTS PEAK
FROM GROUND
(1)
TP III
BROADCAST
SIGNAL


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


½ VERT. RATE
200 VPP
(11)
V9, PIN 3

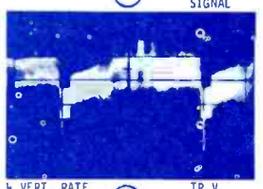

½ VERT. RATE
880 VPP
(12)
V9, PIN 5

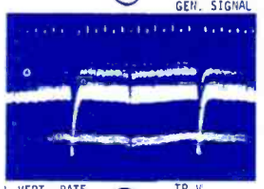

½ VERT. RATE
95 VPP
(2)
TP IV
BROADCAST
SIGNAL

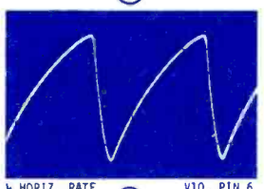

½ VERT. RATE
95 VPP
(2)
TP IV
CROSSHATCH
GEN. SIGNAL

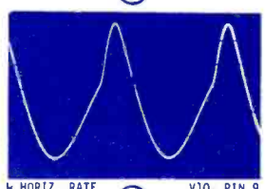

½ HORIZ. RATE
28 VPP
(13)
V10, PIN 7

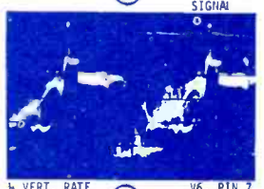

½ HORIZ. RATE
3 VPP
(14)
V10, PIN 8

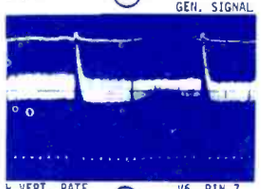

½ VERT. RATE
2 VPP
(3)
TP V
BROADCAST
SIGNAL

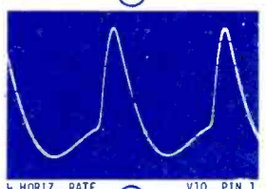

½ VERT. RATE
2 VPP
(3)
TP V
CROSSHATCH
GEN. SIGNAL

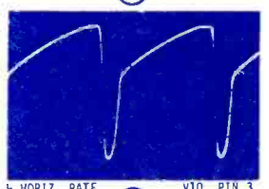

½ HORIZ. RATE
45 VPP
(15)
V10, PIN 6


½ HORIZ. RATE
45 VPP
(16)
V10, PIN 9

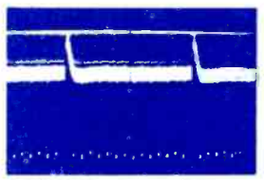

½ VERT. RATE
65 VPP
(4)
V6, PIN 7
BROADCAST
SIGNAL

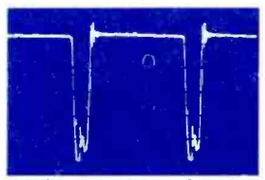

½ VERT. RATE
65 VPP
(4)
V6, PIN 7
CROSSHATCH
GEN. SIGNAL

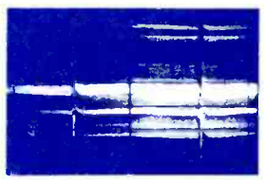

½ HORIZ. RATE
30 VPP
(17)
V10, PIN 1

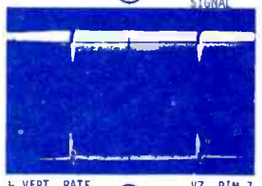

½ HORIZ. RATE
150 VPP
(18)
V10, PIN 3

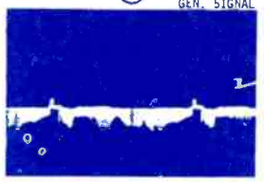

½ VERT. RATE
50 VPP
(5)
TP VI
BROADCAST
SIGNAL

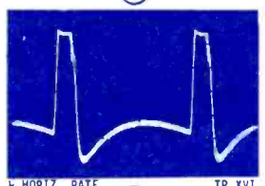

½ VERT. RATE
50 VPP
(5)
TP VI
CROSSHATCH
GEN. SIGNAL

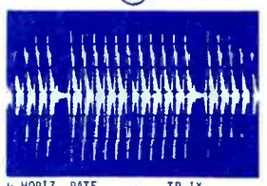

½ HORIZ. RATE
200 VPP
(19)
T252, PIN 4

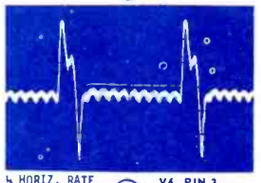

½ VERT. RATE
2 VPP
(20)
V8, PIN 6

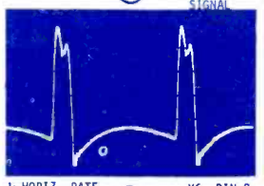

½ VERT. RATE
70 VPP
(6)
V7, PIN 7

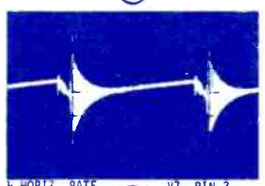

½ VERT. RATE
26 VPP
(7)
V6, PIN 3
BROADCAST
SIGNAL

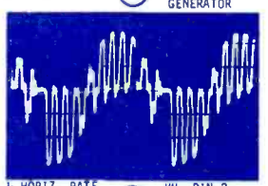

½ HORIZ. RATE
140 VPP
(21)
TP XVI

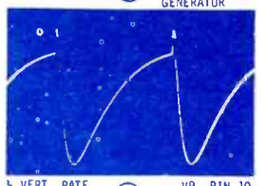

½ HORIZ. RATE
35 VPP
(22)
TP IX
KEYED RAINBOW
GENERATOR

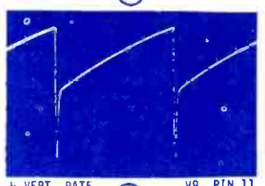

½ HORIZ. RATE
26 VPP
(7)
V6, PIN 3
KEYED RAINBOW
GENERATOR

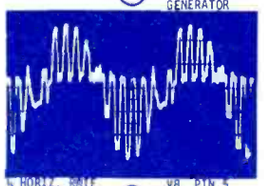

½ HORIZ. RATE
250 VPP
(8)
V6, PIN 9

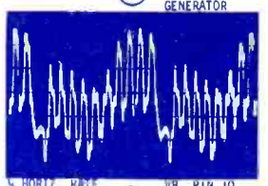

½ HORIZ. RATE
200 VPP
(23)
V7, PIN 3
KEYED RAINBOW
GENERATOR

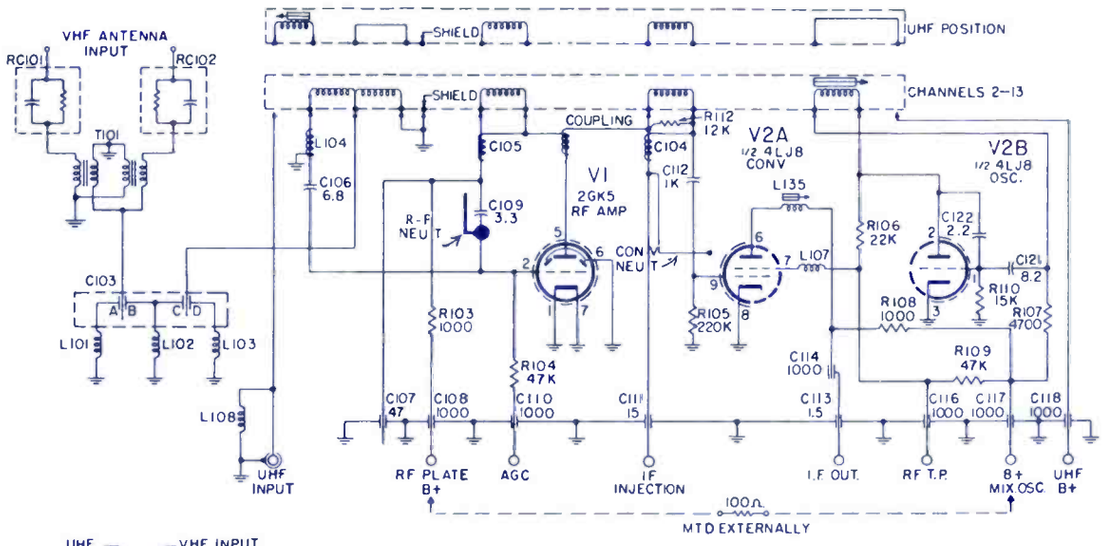

½ HORIZ. RATE
180 VPP
(24)
V8, PIN 2
KEYED RAINBOW
GENERATOR


½ VERT. RATE
80 VPP
(9)
V9, PIN 10

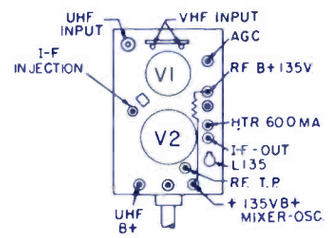

½ VERT. RATE
240 VPP
(10)
V9, PIN 11

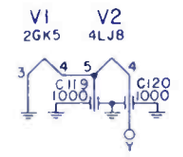

½ HORIZ. RATE
180 VPP
(25)
V8, PIN 5
KEYED RAINBOW
GENERATOR

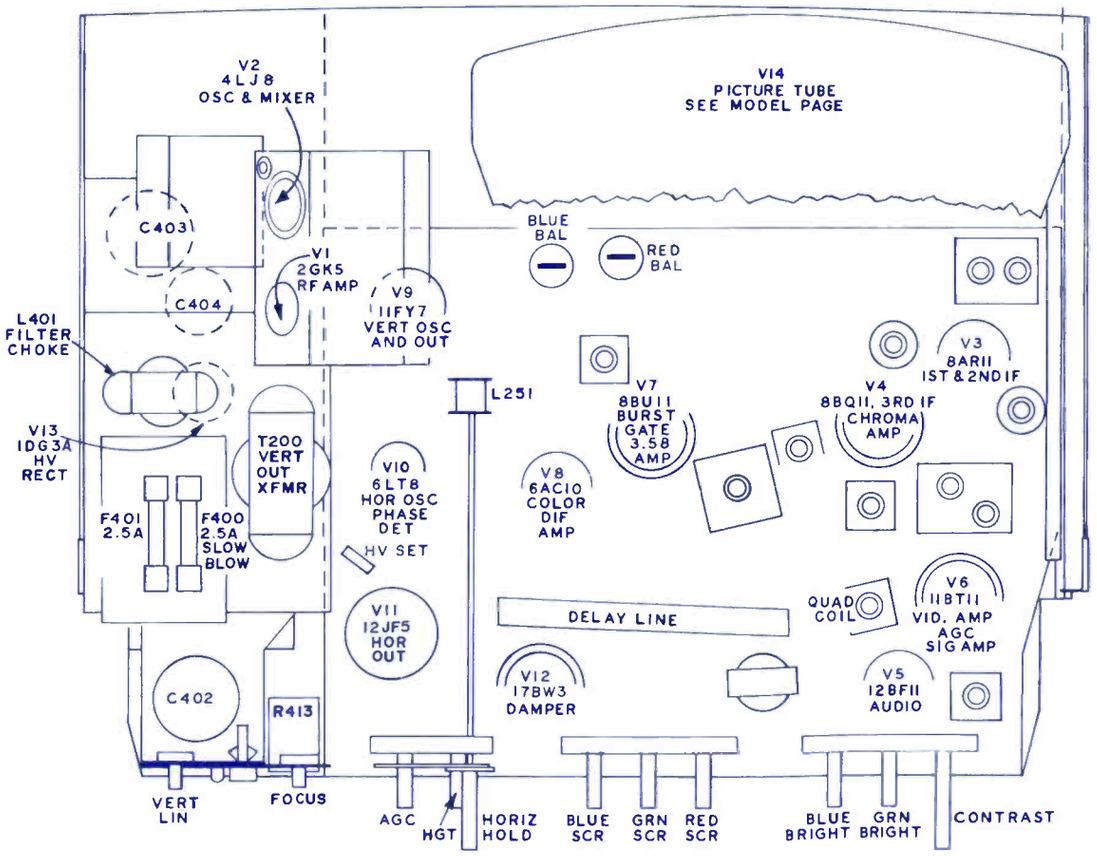

½ HORIZ. RATE
50 VPP
(26)
V8, PIN 10
KEYED RAINBOW
GENERATOR



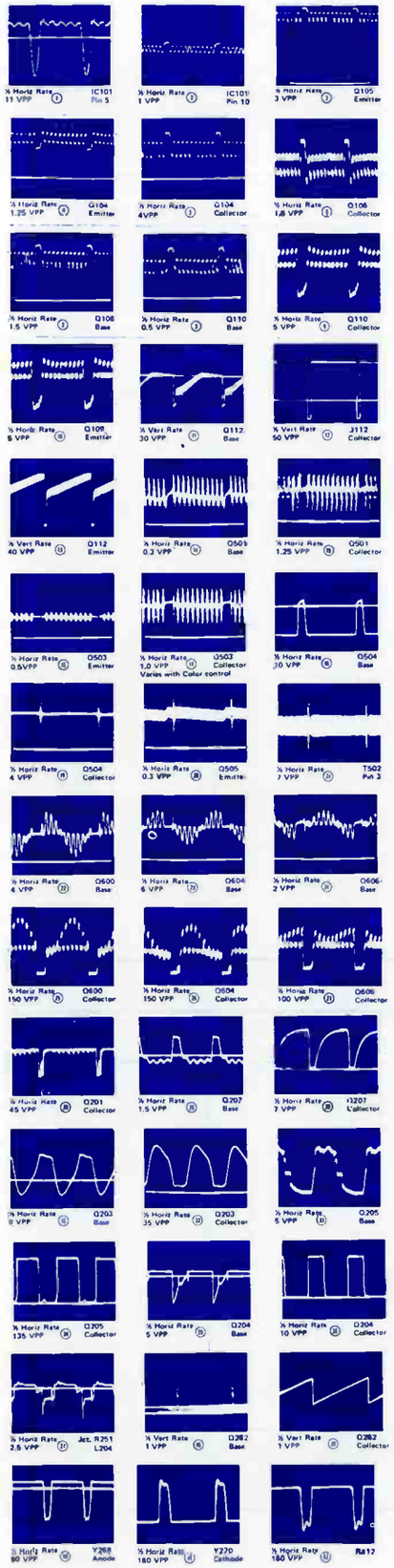
SCHEMATIC DIAGRAM



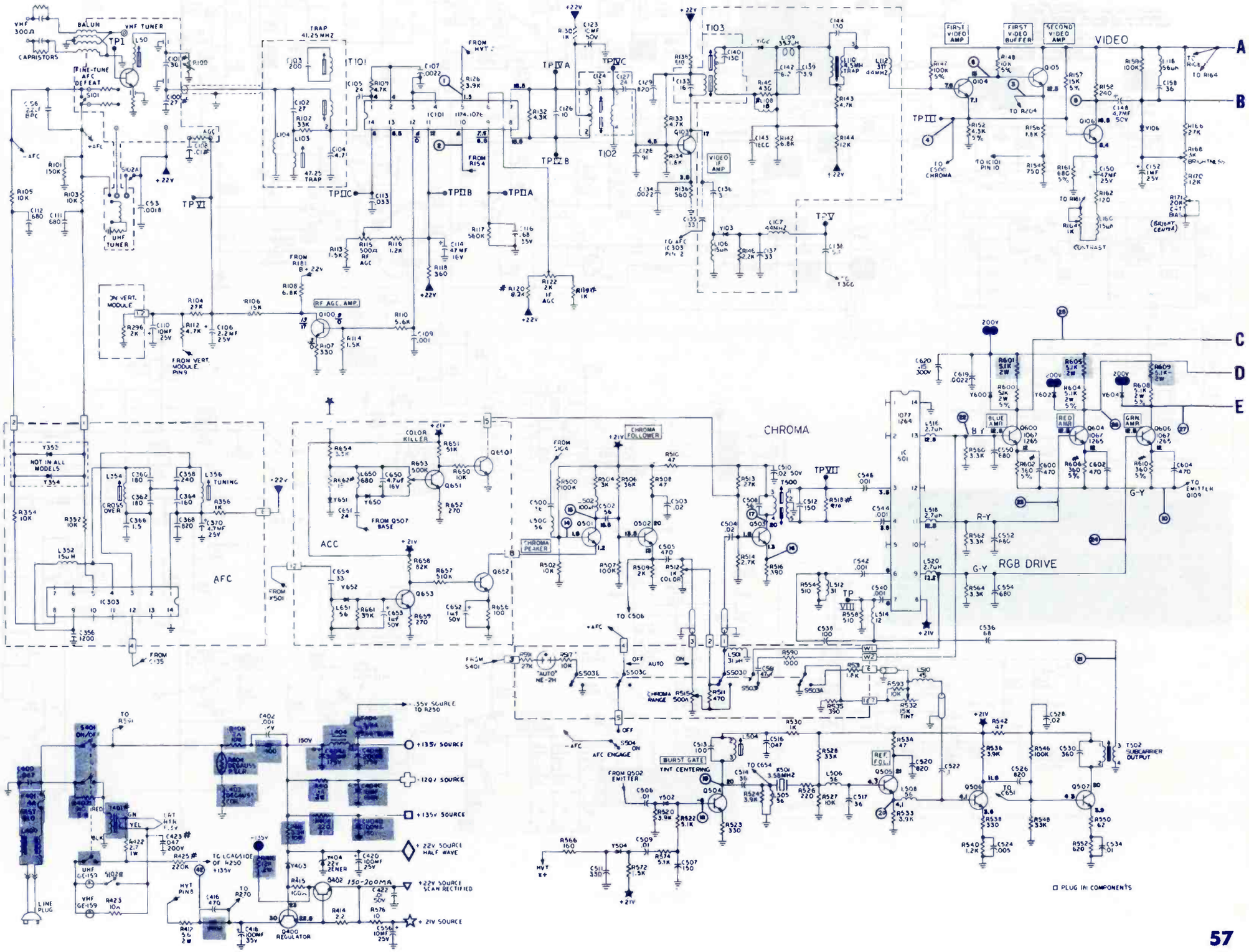




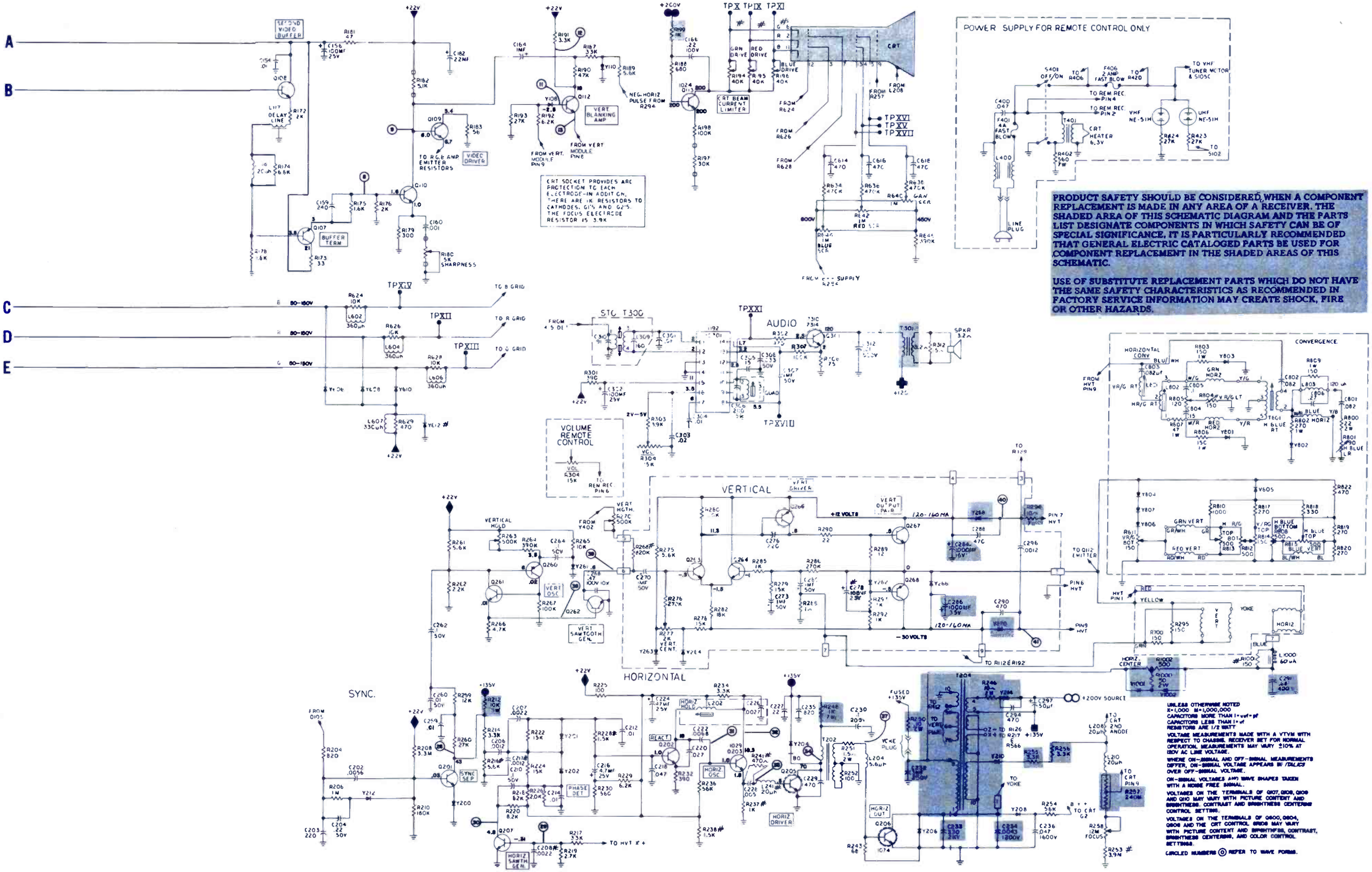
CHASSIS LAYOUT



SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R115	RF AGC, 500Ω	EP49X92
R180	sharpness, 5K dual control	EP49X125, EP49X95
R263	vert hold, 500K	
R270	vert height, 500K	
R277	vert centering, 2K	EP49X90
R515	chroma range, 500Ω triple control	EP49X159, EP49X93
R640	green screen, 1M	
R642	red screen, 1M	
R644	blue screen, 1M	
R653	color killer, 500K	ES49X535
R1002	centering, 500Ω	EP49X160
C404A	300μf, 175v	EP31X28
C404B	200μf, 175v	
C404C	10μf, 150v	
C404D	100μf, 150v	
L110	coil 4.5MHz trap asm. w/core	EP61X13
L112	coil 44MHz trap deflect yoke & plug assembly	EP36X4, EP76X11
L202	coil horiz osc w/core	EP36X55
L301	coil quad w/core	EP36X83
T202	xformer horiz buffer	EP64X19
T204	HV xformer, w/air gap	EP77X18
T301	xformer audio output	ET64X105
T401	xformer filament	EP64X26
T500	xformer chroma bandpass	EP61X14
T502	coil 3.58 output xformer	EP36X84
1C101	integ ckt IF AGC	EP84X1
1C301	integ ckt audio	EP84X2
1C303	integ ckt AFC module	EP84X4
1C501	integ ckt demod	EP84X3
	fuse 4a fast blow F401	EP10X19
	fuse .75a fast blo F404	EP10X17



GENERAL ELECTRIC
Color-TV Chassis
19QA



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.

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

VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS. RECEIVER SET FOR NORMAL OPERATION. MEASUREMENTS MAY VARY ±10% AT 120V AC LINE VOLTAGE.

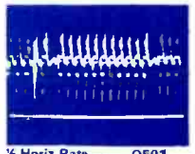
WHERE ON-SIGNAL AND OFF-SIGNAL MEASUREMENTS DIFFER, ON-SIGNAL VOLTAGE APPEARS IN ITALICS OVER OFF-SIGNAL VOLTAGE.

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

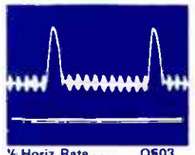
VOLTAGES ON THE TERMINALS OF Q107, Q108, Q109 AND Q110 MAY VARY WITH PICTURE CONTENT AND BRIGHTNESS, CONTRAST AND BRIGHTNESS CENTERING CONTROL SETTING.

VOLTAGES ON THE TERMINALS OF Q600, Q604, Q605 AND THE CRT CONTROL GRIDS MAY VARY WITH PICTURE CONTENT AND BRIGHTNESS, CONTRAST, BRIGHTNESS CENTERING, AND COLOR CONTROL SETTINGS.

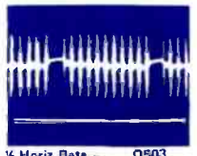
CIRCLED NUMBERS (◎) REFER TO WAVE FORMS.



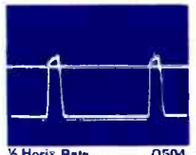
½ Horiz Rate
1.25 VPP (15) Q501
Collector



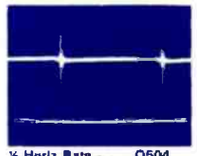
½ Horiz Rate
2.0 VPP (16) Q503
Emitter
Sets with R568 only



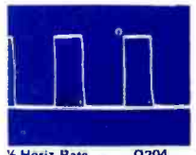
½ Horiz Rate
1.0 VPP (17) Q503
Collector
Varies with Color control



½ Horiz Rate
10 VPP (18) Q504
Base



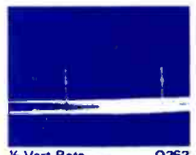
½ Horiz Rate
4 VPP (19) Q504
Collector



½ Horiz Rate
10 VPP (36) Q204
Collector



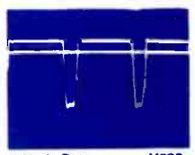
½ Horiz Rate
2.5 VPP (37) Jct. R251,
L204



½ Vert Rate
1 VPP (38) Q262
Base



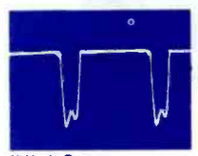
½ Vert Rate
1 VPP (39) Q262
Collector



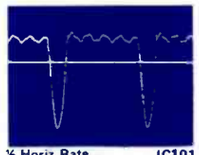
½ Horiz Rate
60 VPP (40) Y268
Anode



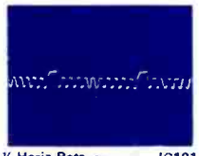
½ Horiz Rate
60 VPP (41) Y270
CATHODE



½ Horiz Rate
180 VPP (42) R412



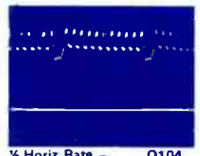
½ Horiz Rate
11 VPP (1) IC101
Pin 5



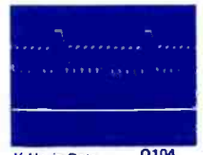
½ Horiz Rate
1 VPP (2) IC101
Pin 10



½ Horiz Rate
3 VPP (3) Q105
Emitter



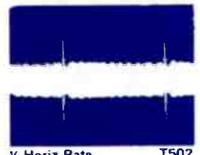
½ Horiz Rate
1.25 VPP (4) Q104
Emitter



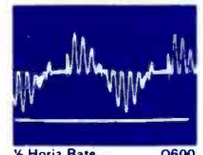
½ Horiz Rate
4 VPP (5) Q104
Collector



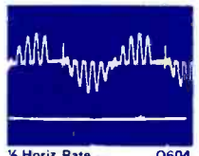
½ Horiz Rate
0.3 VPP (20) Q505
Emitter



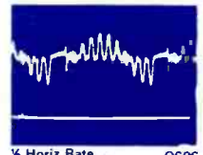
½ Horiz Rate
7 VPP (21) T502
Pin 3



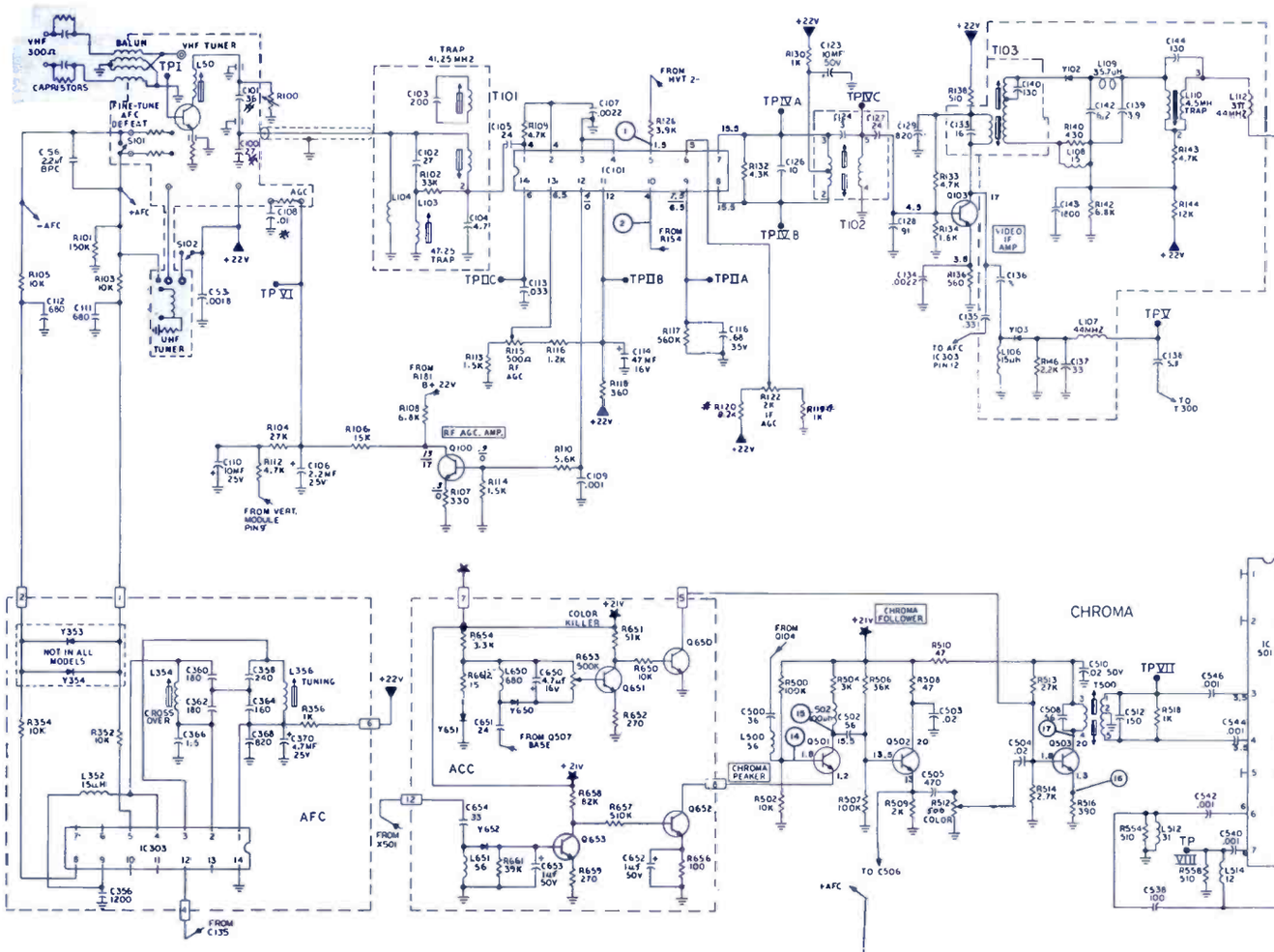
½ Horiz Rate
4 VPP (22) Q600
Base



½ Horiz Rate
6 VPP (23) Q604
Base



½ Horiz Rate
2 VPP (24) Q606
Base



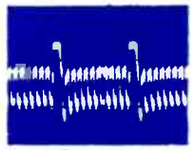
A

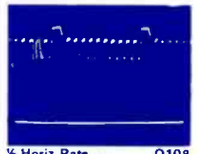
B

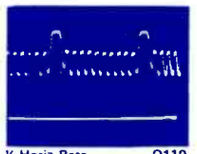
C

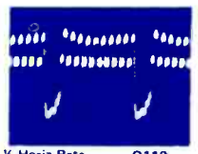
D

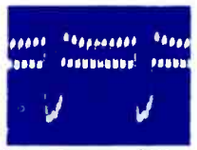
GENERAL ELECTRIC
Color TV Chassis
16QA

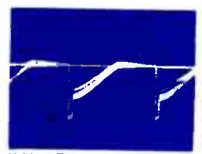

½ Horiz Rate 1.5 VPP (6) Q106 Collector

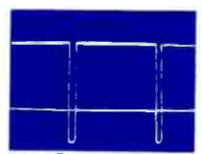

½ Horiz Rate 1.5 VPP (7) Q108 Base


½ Horiz Rate 0.5 VPP (8) Q110 Base

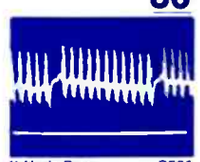

½ Horiz Rate 5 VPP (9) Q110 Collector

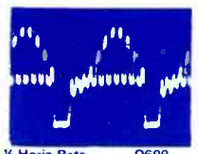

½ Horiz Rate 5 VPP (10) Q109 Emitter


½ Vert Rate 30 VPP (11) Q112 Base


½ Vert Rate 50 VPP (12) Q112 Collector

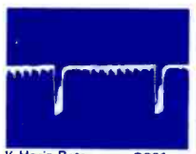

½ Vert Rate 40 VPP (13) Q112 Emitter

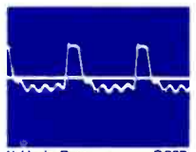

½ Horiz Rate 0.3 VPP (14) Q501 Base

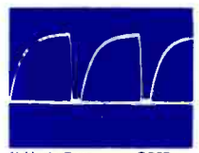

½ Horiz Rate 100 VPP (25) Q600 Collector

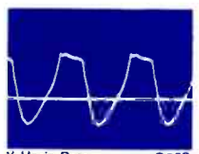

½ Horiz Rate 100 VPP (26) Q604 Collector

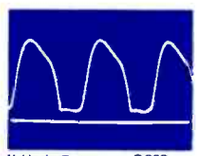

½ Horiz Rate 60 VPP (27) Q606 Collector


½ Horiz Rate 45 VPP (28) Q201 Collector

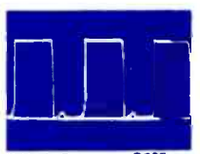

½ Horiz Rate 1.5 VPP (29) Q207 Base

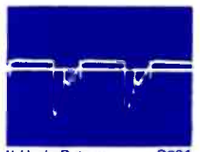

½ Horiz Rate 7 VPP (30) Q207 Collector

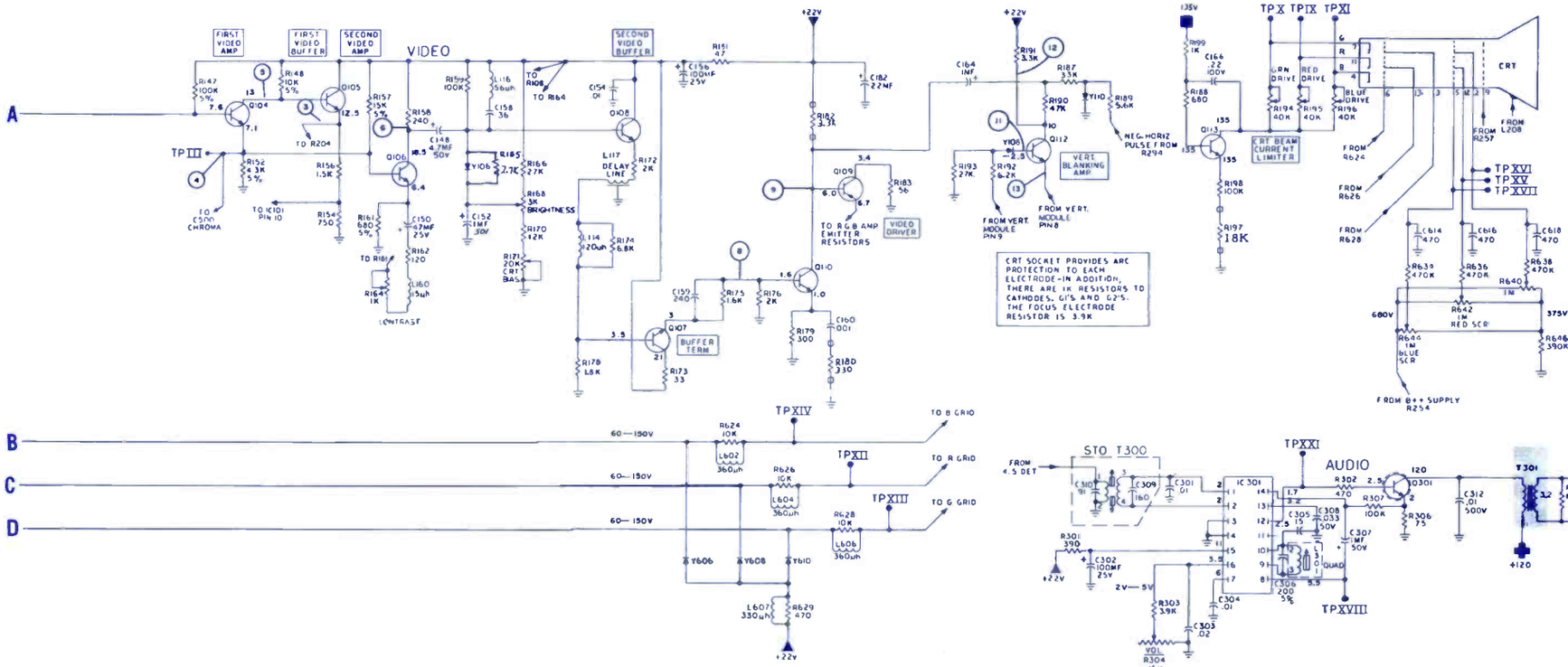

½ Horiz Rate 9 VPP (31) Q203 Base

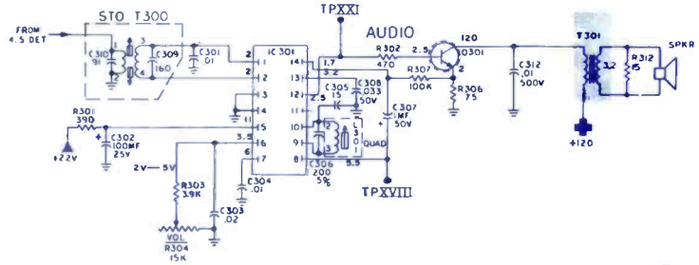

½ Horiz Rate 35 VPP (32) Q203 Collector

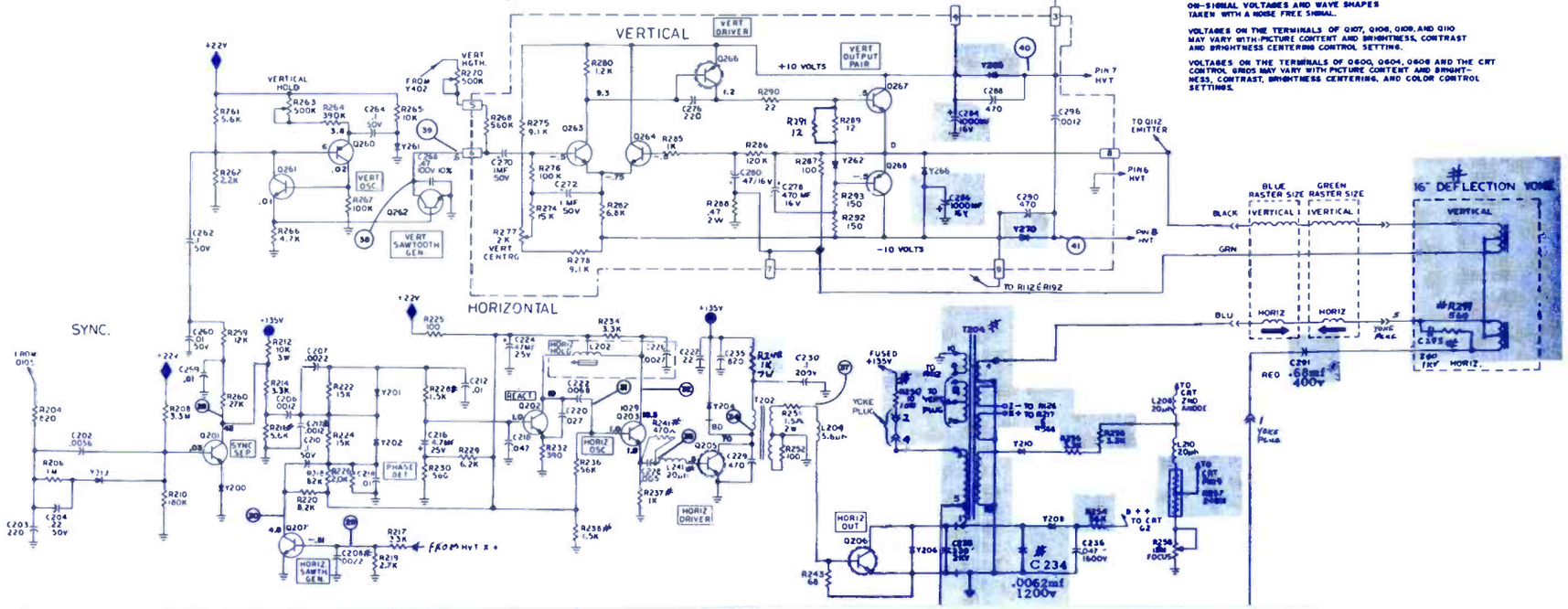

½ Horiz Rate 5 VPP (33) Q205 Base


½ Horiz Rate 135 VPP (34) Q205 Collector


½ Horiz Rate 5 VPP (35) Q204 Base







PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE SHADED AREAS 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 PARTS LIST. USE OF
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.

Indicates to see Production Changes.

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

VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS. RECEIVER SET FOR NORMAL OPERATION. MEASUREMENTS MAY VARY ±10% AT 120V AC LINE VOLTAGE.

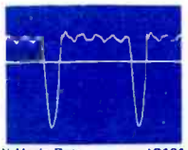
WHERE ON-SIGNAL AND OFF-SIGNAL MEASUREMENTS DIFFER, ON-SIGNAL VOLTAGE APPEARS IN *ITALICS* OVER OFF-SIGNAL VOLTAGE.

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

VOLTAGES ON THE TERMINALS OF Q107, Q108, Q109, AND Q110 MAY VARY WITH PICTURE CONTENT AND BRIGHTNESS, CONTRAST AND BRIGHTNESS CENTERING CONTROL SETTING.

VOLTAGES ON THE TERMINALS OF Q600, Q604, Q606 AND THE CRT CONTROL GRIDS MAY VARY WITH PICTURE CONTENT AND BRIGHTNESS, CONTRAST, BRIGHTNESS CENTERING, AND COLOR CONTROL SETTINGS.

SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R115	RF AGC, 500n	EP49X92
	—Dual Control	
R122	IF AGC, 2K	
R171	CRT Bias, 20K	EP49X96
R180	Sharpness, 5K	EP49X125
	—Dual Control	EP49X97
R258	Focus, 15 M	
	—Dual Control	EP49X95
R263	Vertical Hold, 500K	
R270	Vertical Height, 500K	
R277	Vertical Centering, 2K	EP49X90
R653	Color Killer, 500K	ES49X535
C404A	300 μf, 175V	EP31X28
C404B	200 μf, 175V	
C404C	10 μf, 150V	
C404D	100 μf, 150V	
L110	Coil, 4.5 Trap Asm. w/Core	EP61X13
L112	Coil, 44MHz Trap	EP36X4
	—Defl. Yoke & Plug Asm	EP76X15
L202	Coil, Horiz, Osc.	EP36X55
L301	Coil, Quadrature	EP36X83
T204	H.V. xformer, w/Air Gap	EP77X19
T301	xformer, Audio Output	ET64X105
T401	xformer, Filament	EP64X20
T500	xformer, Chroma Bandpass	EP61X14
IC101	Integrated Ckt., IF, AGC	EP84X1
IC301	Integrated Ckt., Audio	EP84X2
IC303	Integrated Ckt., AFC Module	EP84X4
IC501	Integrated Ckt. Demod	EP84X3



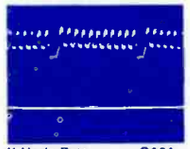
½ Horiz Rate 11 VPP (1) IC101 Pin 5



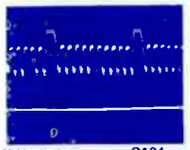
½ Horiz Rate 1 VPP (2) IC101 Pin 10



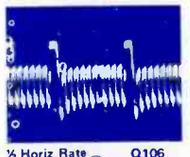
½ Horiz Rate 3 VPP (3) Q105 Emitter



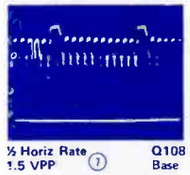
½ Horiz Rate 1.25 VPP (4) Q104 Emitter



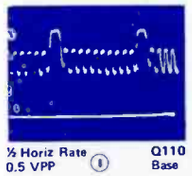
½ Horiz Rate 4VPP (5) Q104 Collector



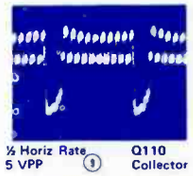
½ Horiz Rate 1.5 VPP (6) Q106 Collector



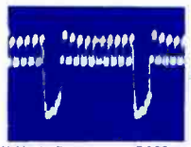
½ Horiz Rate 1.5 VPP (7) Q108 Base



½ Horiz Rate 0.5 VPP (8) Q110 Base



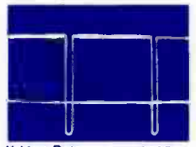
½ Horiz Rate 5 VPP (9) Q110 Collector



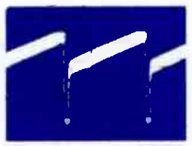
½ Horiz Rate 5 VPP (10) Q109 Emitter



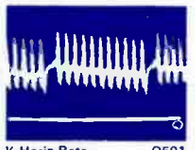
½ Vert Rate 30 VPP (11) Q112 Base



½ Vert Rate 50 VPP (12) J112 Collector



½ Vert Rate 40 VPP (13) Q112 Emitter



½ Horiz Rate 0.3 VPP (14) Q501 Base



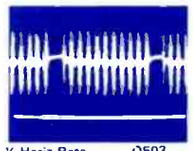
½ Horiz Rate 1.25 VPP (15) Q501 Collector



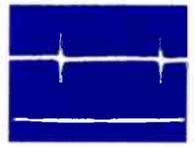
½ Horiz Rate 0.5VPP (16) Q503 Emitter

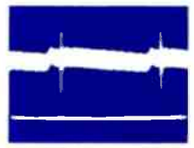
GENERAL ELECTRIC
Color TV Chassis
QB

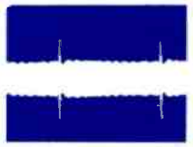
GENERAL ELECTRIC
Color TV Chassis
QB

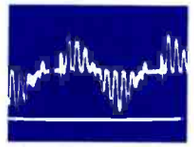

½ Horiz Rate (17) Q503
1.0 VPP Collector
Varies with Color control

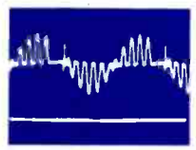

½ Horiz Rate (18) Q504
10 VPP Base

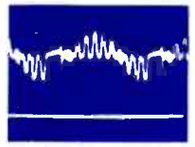

½ Horiz Rate (19) Q504
4 VPP Collector

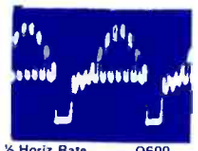

½ Horiz Rate (20) Q505
0.3 VPP Emitter

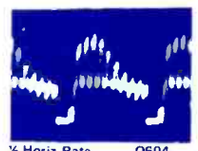

½ Horiz Rate (21) T502
7 VPP Pin 3

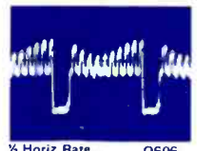

½ Horiz Rate (22) Q600
4 VPP Base

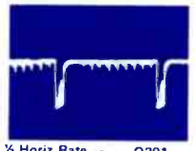

½ Horiz Rate (23) Q604
6 VPP Base


½ Horiz Rate (24) Q606
2 VPP Base


½ Horiz Rate (25) Q600
150 VPP Collector

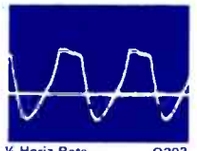

½ Horiz Rate (26) Q604
150 VPP Collector

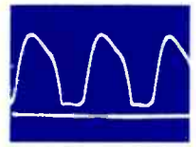

½ Horiz Rate (27) Q606
100 VPP Collector

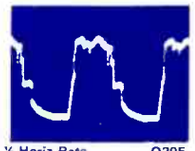

½ Horiz Rate (28) Q201
45 VPP Collector


½ Horiz Rate (29) Q207
1.5 VPP Base


½ Horiz Rate (30) Q207
7 VPP Collector

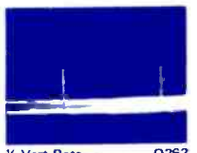

½ Horiz Rate (31) Q203
9 VPP Base

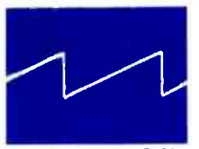

½ Horiz Rate (32) Q203
35 VPP Collector


½ Horiz Rate (33) Q205
5 VPP Base


½ Horiz Rate (34) Q205
135 VPP Collector

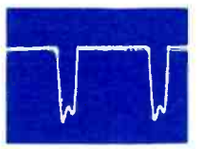

½ Horiz Rate (37) Jct. R251
2.5 VPP L204

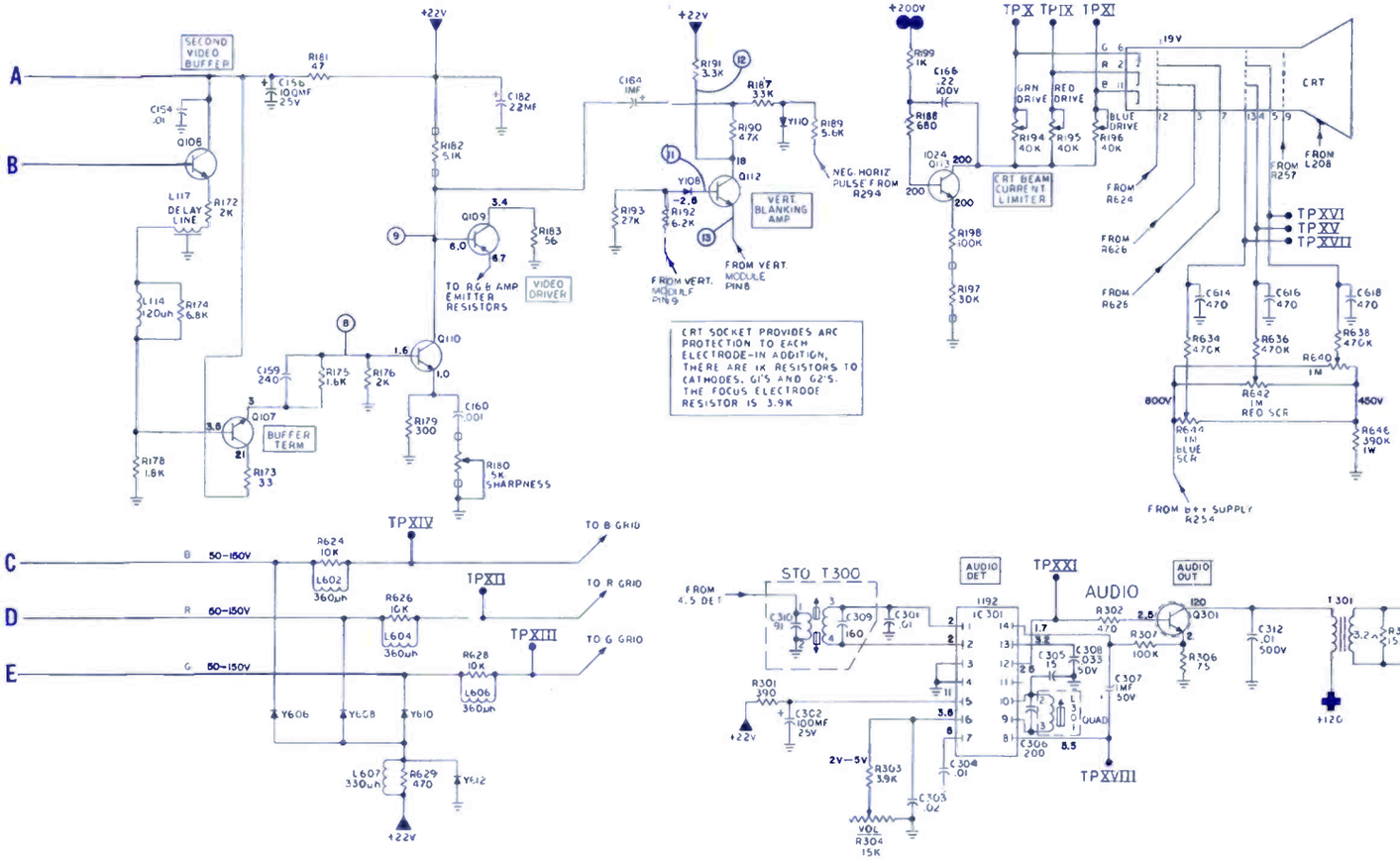

½ Vert Rate (38) Q262
1 VPP Base

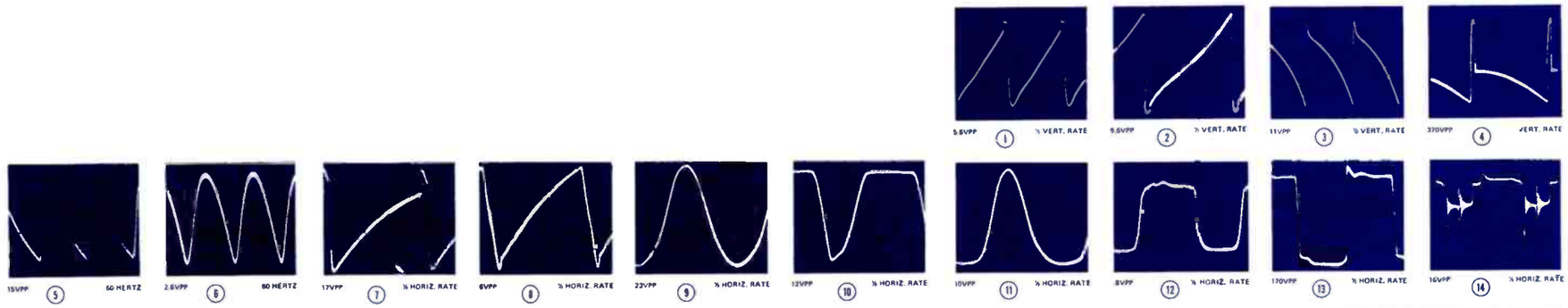

½ Vert Rate (39) Q262
1 VPP Collector


½ Horiz Rate (40) Y268
90 VPP Anode


½ Horiz Rate (41) Y270
180 VPP Cathode


½ Horiz Rate (42) R412
180 VPP


SECOND VIDEO BUFFER
DELAY LINE
BUFFER TERM
VIDEO DRIVER
TO RG B AMP EMITTER RESISTORS
VERT. BLANKING AMP
NEG. HORIZ PULSE FROM R294
FROM VERT. MODULE PIN 9
FROM VERT. MODULE PIN 8
CRT SOCKET PROVIDES ARC PROTECTION TO EACH ELECTRODE-IN ADDITION, THERE ARE IK RESISTORS TO CATHODES, G1'S AND G2'S. THE FOCUS ELECTRODE RESISTOR IS 3.9K
CRT BEAM CURRENT LIMITER
GRN DRIVE
RED DRIVE
BLUE DRIVE
CRT
FROM L208
FROM R257
FROM R624
FROM R626
FROM R628
TPXVI
TPXV
TPXVII
RFO SCR
BLUE SCR
FROM B++ SUPPLY R254
TPXIV
TPXII
TPXIII
TO B GRID
TO R GRID
TO G GRID
TPXVIII
STG T300
AUDIO DET
AUDIO
AUDIO OUT
TPXXI
SPKR
FROM 4.5 DET
VERTICAL
VERT DRIVER
VERT OUTPUT PAIR
+12 VOLTS
-33VOLTS
VERTICAL HOLD
VERT OSC
VERT SAWTOOTH GEN
VERT DIFF PAIR
TO R259
TO Q412 EMITTER
TO R412 BASE
TO HVT PIN 7
TO HVT PIN 6
HVT PIN 1
YOKE
HORIZ. CENTER
SYNC.
SYNC SEP
HORIZ OSC
HORIZ SAWTH GEN.
HORIZ HOLD
PHASE DET
HORIZ DRIVER
TO HVT X+
HORIZONTAL
CONVERGENCE
HORIZONTAL CONV
GRN HOR2
RED HOR2
GRN VERT
RED VERT
BLUE VERT
GRN HORIZ
RED HORIZ
BLUE HORIZ
TOP
BOT
BLUE BOTTOM
BLUE TOP
YOKE PLUG
TO VERT PLUG
TO CRT
TO LR1 PIN 1
R257 240M
R256 3.3K
R254 56K
R255 3.3K
R250 10 10W
R246 10K 2W
R248 1K 7W
R251 15K
R252 100
R253 5.6K
R232 390
R238 1.5K
R234 3.3K
R235 56K
R237 1K
R229 6.2K
R228 1.5K
R227 15K
R226 15K
R225 100
R222 15K
R220 100K
R218 5.6K
R216 4.7M
R214 5.6K
R212 10K 2W
R210 180K
R208 5.3M
R206 1M
R204 2.7K
R202 5.6K
R201 5.6K
R200 2.7K
R199 1K
R198 100K
R197 30K
R196 40K
R195 40K
R194 40K
R193 27K
R192 6.2K
R191 3.3K
R190 47K
R189 5.6K
R188 680
R187 33K
R186 1K
R183 56
R182 5.1K
R181 47
R180 5K SHARPNESS
R179 300
R178 1.8K
R176 2K
R175 1.6K
R174 6.8K
R173 33
R172 2K
R644 1M BLUE SCR
R642 1M RFO SCR
R640 1M
R638 470K
R636 470K
R634 470K
R632 1M
R628 10K
R626 10K
R624 10K
R629 470
R607 47 1W
R606 360uh
R604 360uh
R602 360uh
L607 330uh
L606 360uh
L604 360uh
L602 360uh
L117 DELAY LINE
L114 120uh
Y606
Y608
Y610
Y612
Y802
Y805
Y807
Y809
Y810
Y812
Y814
Y816
Y818
Y820
Y822
Y824
Y826
Y828
Y830
Y832
Y834
Y836
Y838
Y840
Y842
Y844
Y846
Y848
Y850
Y852
Y854
Y856
Y858
Y860
Y862
Y864
Y866
Y868
Y870
Y872
Y874
Y876
Y878
Y880
Y882
Y884
Y886
Y888



DISCONNECT ANY EXTERNAL SIGNAL SOURCES BEFORE CHECKING THESE WAVEFORMS.

SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
	control-triple	ES49X61
R210	—height, 85K	
R215	—vert size, 16K	
R218	—vert lin, 2.5K	
R232	—thermistor assembly	ES41X5
R233	—thermistor, 650Ω, 10%	ES14X27
R307	—VDR 180-200v	ES13X3
C403A	—300μf, electro, 175v	ES31X38
C403B	—30μf, electro, 150v	
C403C	—300μf, electro, 150v	
C403D	—200μf, electro, 50v	
L106	—coil 44MHz trap, 36.7μf	ES36X84
L109	—coil 4.5MHz trap	ES36X120
L251	—coil horiz osc	ES36X88
L264	—coil width	ES36X121
	deflect yoke 19 in.	ES76X13
T201	—xformer vert output	ES64X11
T251	—xformer horiz buffer	ES64X12
T252	—xformer high voltage	ES77X19
T301	—xformer audio output	ES64X13
	fuse 4a, fast blo, pigtail, 250v F401	

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.

CIRCUITRY COVERED BY THE DIAGONAL LINES IS ON THE PRINTED CIRCUIT BOARD, BUT DOES NOT CONTRIBUTE TO THE OPERATION OF THE CRT.

CAUTION

THIS IS NOT A TV RECEIVER. THIS DEVICE MUST ALWAYS BE CONNECTED TO AN ISOLATION TRANSFORMER AS A SOURCE OF 120 VAC. THE INPUT TERMINALS ARE CONNECTED TO THE POWER LINES.

AUDIO MODULE

UNLESS OTHERWISE NOTED
K=1,000 M=1,000,000
CAPACITOR MORE THAN 1 mmf = pf
CAPACITOR LESS THAN 1 mf
RESISTORS ARE 1/2 WATT

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

MEASUREMENTS MAY VARY ±10% AT 120V A.C. LINE VOLTAGE.

#NEW CRITICAL VALUES.

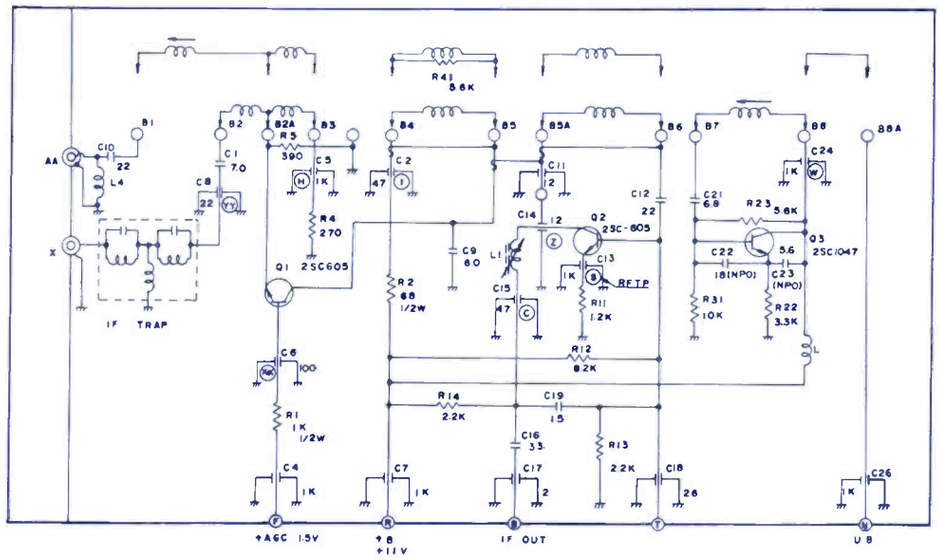
OPERATING THIS DEVICE AT REDUCED HORIZONTAL SCAN RATES CAN CAUSE EXCESSIVE HIGH VOLTAGE. FOR CONTINUED PROTECTION AGAINST X-RADIATION, DO NOT OPERATE AT HORIZONTAL SCAN RATES LOWER THAN 14,750Hz.

GENERAL ELECTRIC
Display Device Chassis
MUA

MAGNAVOX

TV Chassis
T969 Series

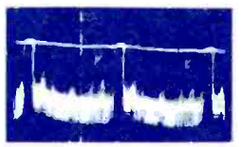
VHF TUNER



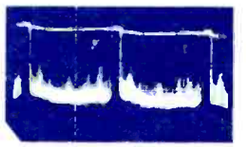
1 1V P/P V



2 4V P/P V



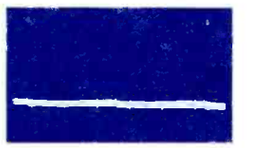
3 60V P/P V



4 50V P/P V



5 .9V P/P V



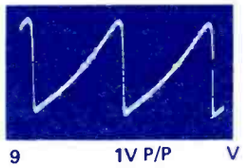
6 5V P/P V



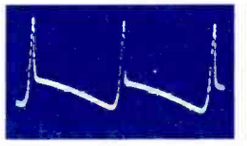
7 9V P/P V



8 1.6V P/P V



9 1V P/P V



10 60V P/P V



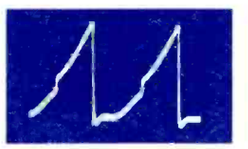
11 3V P/P H



12 2.5V P/P H



13 .3V P/P H



14 3V P/P H



15 12 V P/P H



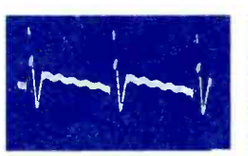
16 3V P/P H



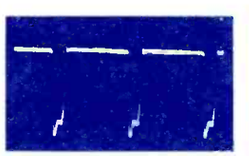
17 35V P/P H



18 6V P/P H



19 .1V P/P H



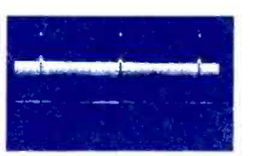
20 25V P/P H



21 80V P/P H



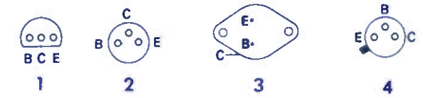
22 1V P/P V



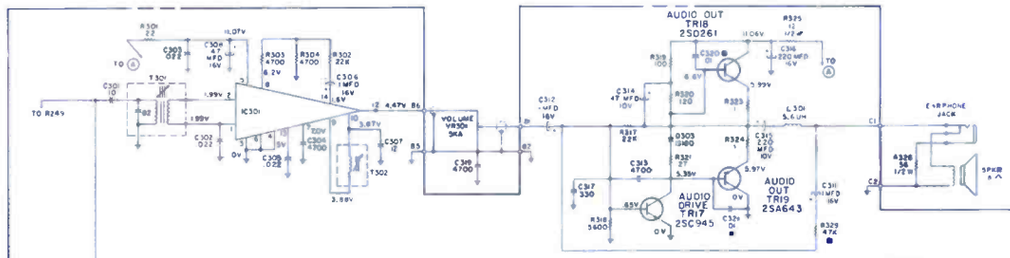
23 20V P/P V

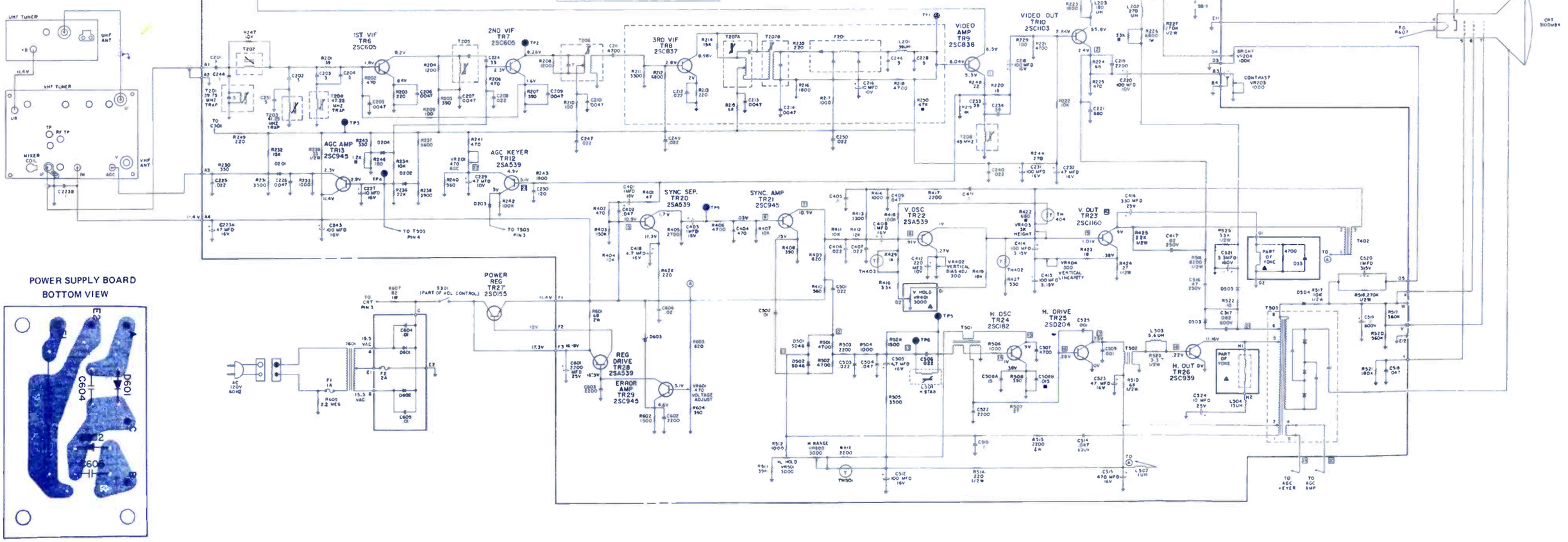
NOTES:
UNLESS OTHERWISE SPECIFIED:
1. ALL CAPACITANCE VALUES 1 OR GREATER ARE IN PICOFARADS.
2. ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS.
3. CAPACITORS ARE 10%, 50V.
4. RESISTORS ARE 10%, 1/4W.
5. ▲=LOCATED OFF BOARD.
6. ■=LOCATED ON BOTTOM OF BOARD.
7. □=WAVEFORM IDENTIFICATION.
8. ALL VOLTAGES ARE MEASURED UNDER NO SIGNAL CONDITIONS.

TRANSISTOR BASING



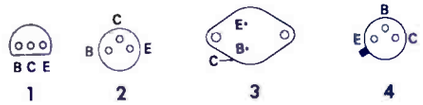
TR6	2	TR20	1
TR7	2	TR21	1
TR8	1	TR22	1
TR9	1	TR23	3
TR10	4	TR24	2
TR12	1	TR25	4
TR13	1	TR26	3
TR17	1	TR27	3
TR18	1	TR28	1
TR19	1	TR29	1



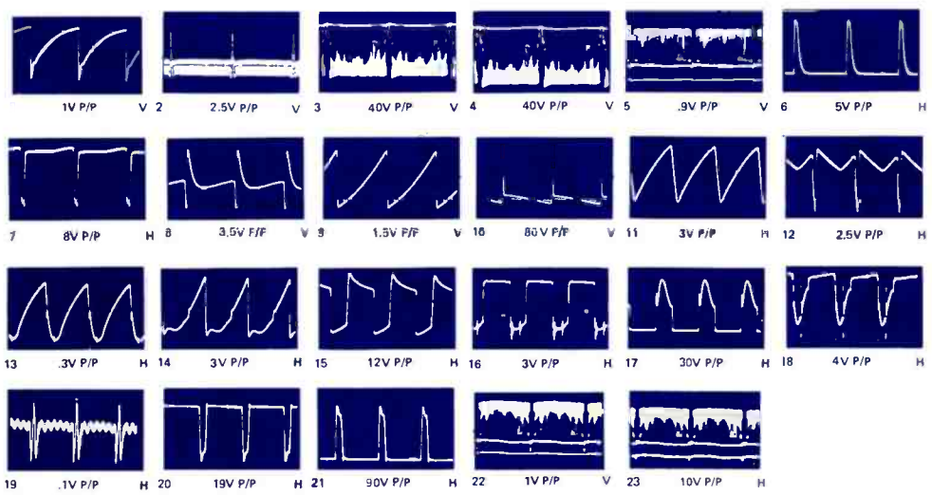


POWER SUPPLY BOARD
BOTTOM VIEW

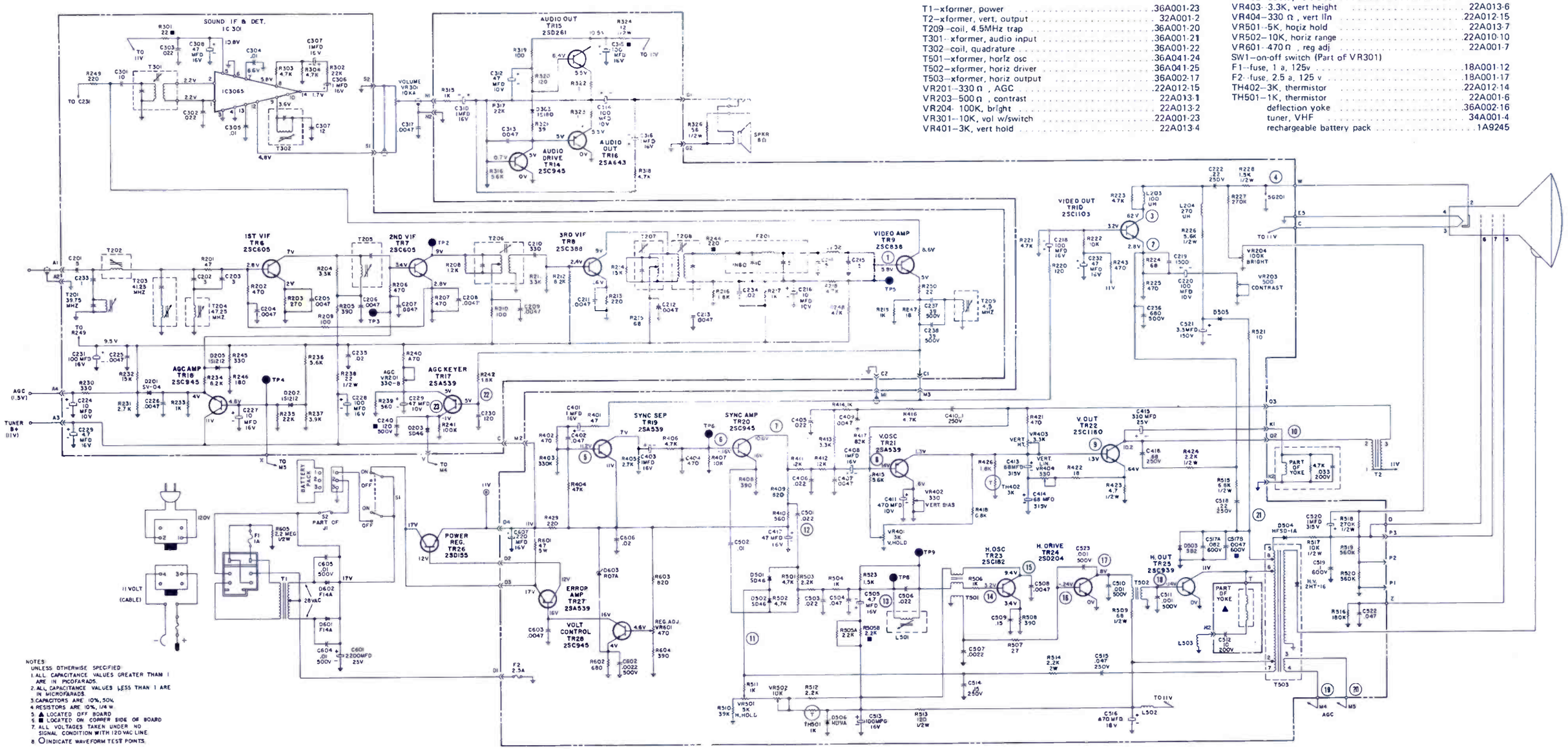
TRANSISTOR BASING



TR-6	2	TR-18	1
TR-7	2	TR-19	1
TR-8	1-2	TR-20	1
TR-9	1-2	TR-21	1
TR-10	4	TR-22	3
TR-11	1	TR-23	1-2
TR-12	1	TR-24	4
TR-13	1	TR-25	3
TR-14	1	TR-26	3
TR-15	1	TR-27	1
TR-16	1	TR-28	1
TR-17	1		



SYMBOL	DESCRIPTION	MAGNAVOX PART NO.
T1	xformer, power	36A001-23
T2	xformer, vert, output	32A001-2
T209	coil, 4.5MHz trap	36A001-20
T301	xformer, audio input	36A001-21
T302	coil, quadrature	36A001-22
T501	xformer, horiz osc	36A041-24
T502	xformer, horiz driver	36A041-25
T503	xformer, horiz output	36A002-17
VR201	330 Ω , AGC	22A012-15
VR203	500 Ω , contrast	22A013-1
VR204	100K, bright	22A013-2
VR301	10K, vol w/switch	22A001-23
VR401	3K, vert hold	22A013-4
VR402	330Ω , vert bias	22A012-15
VR403	3.3K, vert height	22A013-6
VR404	330 Ω , vert lin	22A012-15
VR501	5K, horiz hold	22A013-7
VR502	10K, horiz range	22A010-10
VR601	470 Ω , reg adj	22A001-7
SW1	on-off switch (Part of VR301)	
F1	fuse, 1 a, 125v	18A001-12
F2	fuse, 2.5 a, 125 v	18A001-17
TH402	3K, thermistor	22A012-14
TH501	1K, thermistor	22A001-6
	deflection yoke	36A002-16
	tuner, VHF	34A001-4
	rechargeable battery pack	1A9245

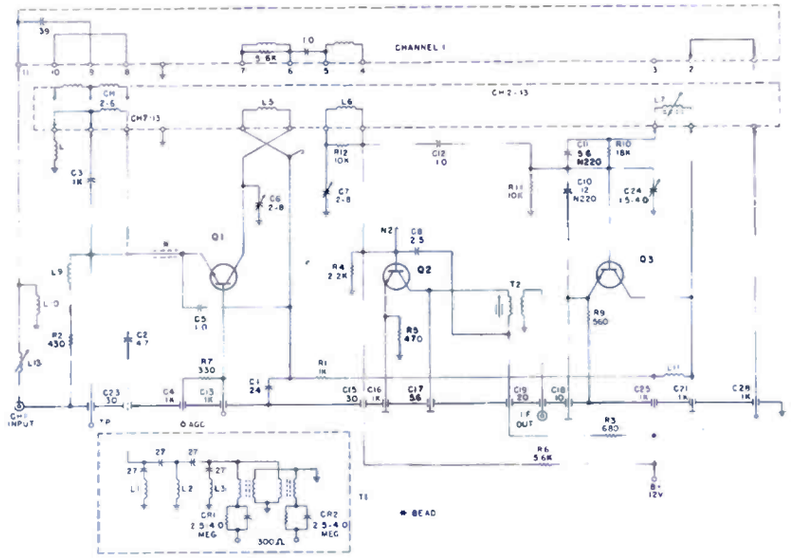


NOTES:
UNLESS OTHERWISE SPECIFIED:
1. ALL CAPACITANCE VALUES GREATER THAN 1 ARE IN PICOFARADS.
2. ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS.
3. CAPACITORS ARE 10%, 50V.
4. RESISTORS ARE 10%, 1/4 W.
5. ▲ LOCATED OFF BOARD
6. ■ LOCATED ON CORNER SIDE OF BOARD
7. ALL VOLTAGES TAKEN UNDER NO SIGNAL CONDITION WITH 120 VAC LINE.
8. ⊙ INDICATE WAVEFORM TEST POINTS.

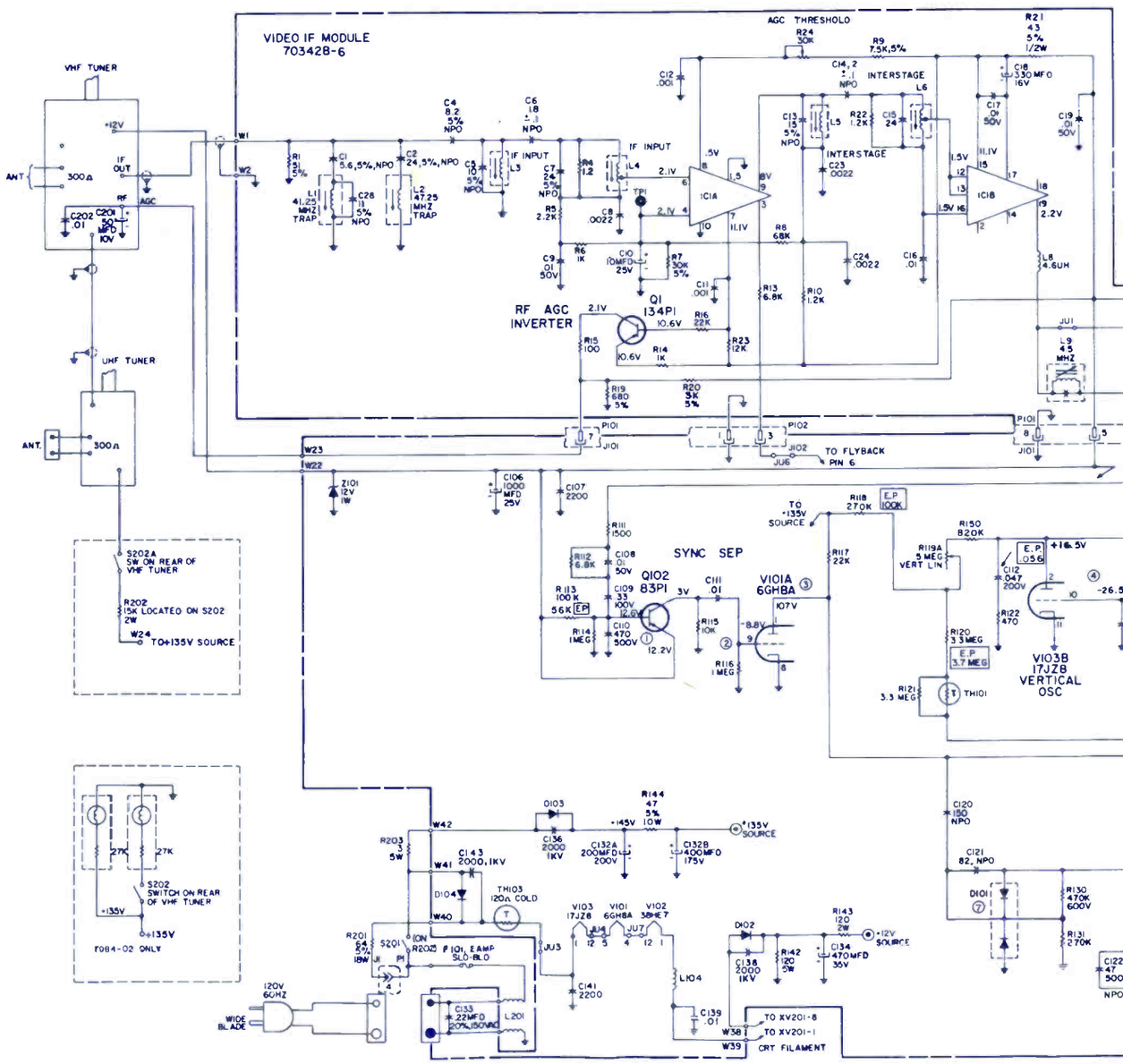
MAGNAVOX
TV Chassis
T968

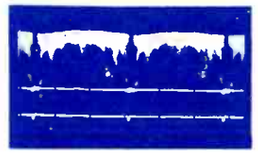
MAY • 1973

MAGNAVOX
TV Chassis
T984 Series

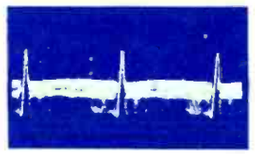


SYMBOL	DESCRIPTION	PART NO.
L103	horiz osc coil	361367-7
L201	line filter	361400-3
T101	audio output xformer	320382-2
T102	vert output xformer	320390-1
T103	high volt xformer	361484-1
C132A, B, C	electr 200μf, 200v, 400μf, 40μf, 20μf, 175v	270099-32
R119A, B, C	vert lin, hold & height	220266-7
D201	high volt rect diode	530119-8
TH101	thermistor	230130-6
TH103	thermistor	230170-8
VDR101	varistor	230167-6
F101	fuse, 2a, slo-blo	180865-5200

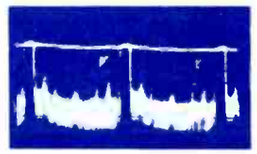




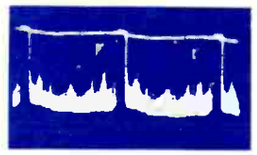
1 1V P/P V



2 1.2V P/P V



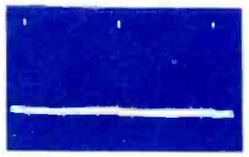
3 60V P/P V



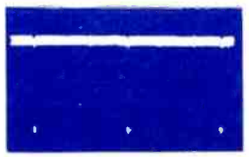
4 50V P/P V



5 .9V P/P V



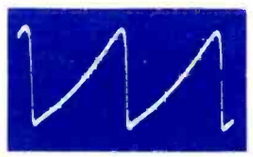
6 5V P/P V



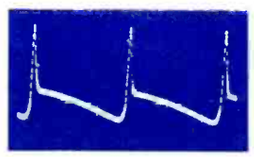
7 8V P/P V



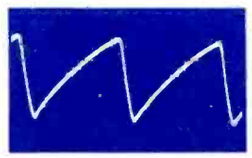
8 1.6V P/P V



9 1.5V P/P V



10 30V P/P V



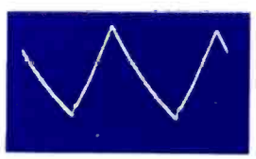
11 3V P/P H



12 2.5V P/P H



13 .3V P/P H



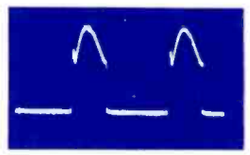
14 2V P/P H



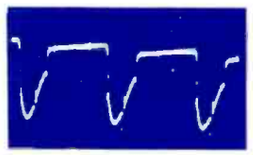
15 11V P/P H



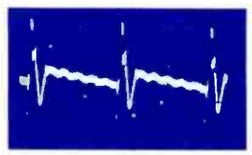
16 3V P/P H



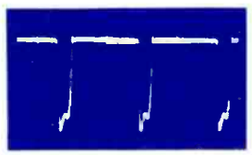
17 25V P/P H



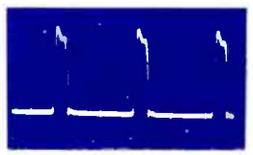
18 6V P/P H



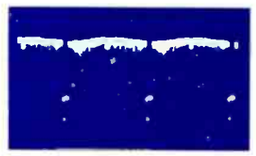
19 .1V P/P H



20 19V P/P H



21 80V P/P H



22 1V P/P V

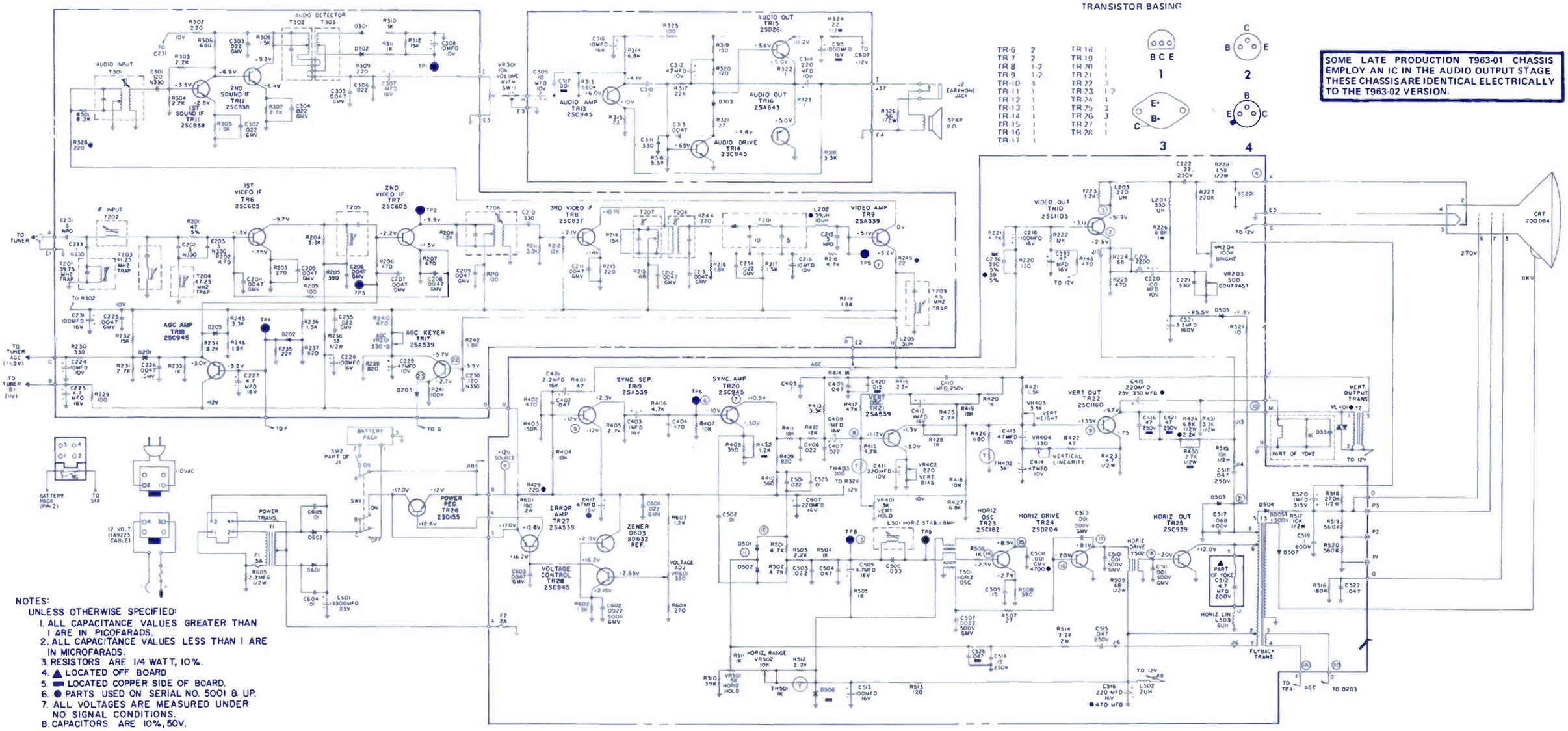


23 16V P/P V

TRANSISTOR BASING

TR-6	2
TR-7	2
TR-8	1-2
TR-9	1-2
TR-10	4
TR-11	1
TR-12	1
TR-13	1
TR-14	1
TR-15	1
TR-16	1
TR-17	1
TR-18	1
TR-19	1
TR-20	1
TR-21	1
TR-22	3
TR-23	1-2
TR-24	1
TR-25	3
TR-26	3
TR-27	1
TR-28	1

SOME LATE PRODUCTION T963-01 CHASSIS EMPLOY AN IC IN THE AUDIO OUTPUT STAGE. THESE CHASSIS ARE IDENTICAL ELECTRICALLY TO THE T963-02 VERSION.

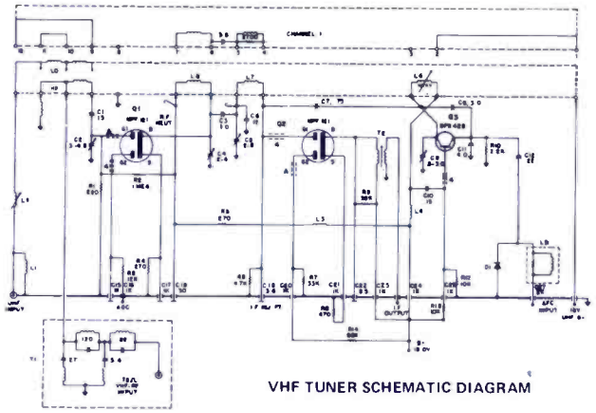


NOTES:
UNLESS OTHERWISE SPECIFIED:
1. ALL CAPACITANCE VALUES GREATER THAN 1 ARE IN PICOFARADS.
2. ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS.
3. RESISTORS ARE 1/4 WATT, 10%.
4. ▲ LOCATED OFF BOARD
5. ▬ LOCATED COPPER SIDE OF BOARD.
6. ● PARTS USED ON SERIAL NO. 5001 & UP.
7. ALL VOLTAGES ARE MEASURED UNDER NO SIGNAL CONDITIONS.
8. CAPACITORS ARE 10%, 50V.

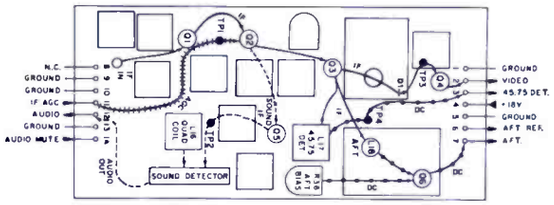
MAGNAVOX
TV Chassis T963

MAGNAVOX

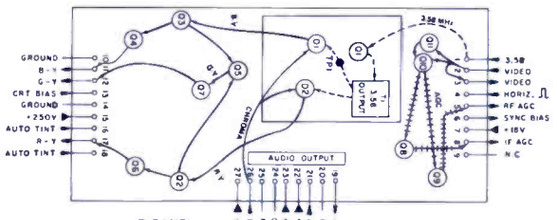
Color-TV
Chassis T979



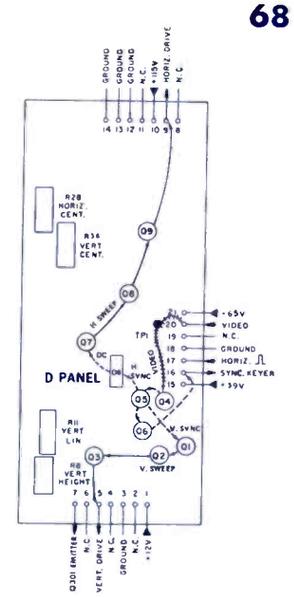
VHF TUNER SCHEMATIC DIAGRAM



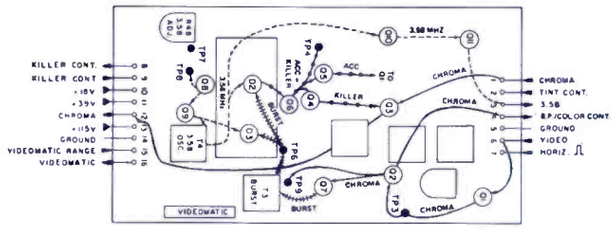
A PANEL



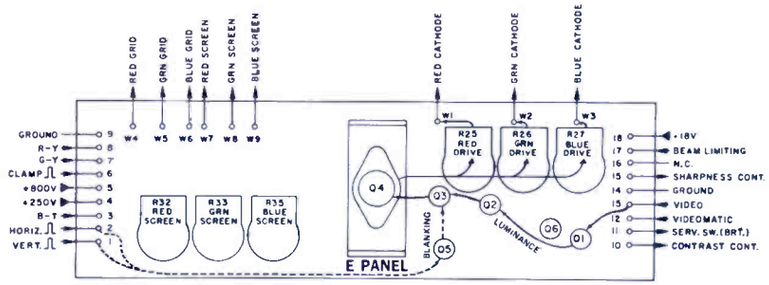
B PANEL



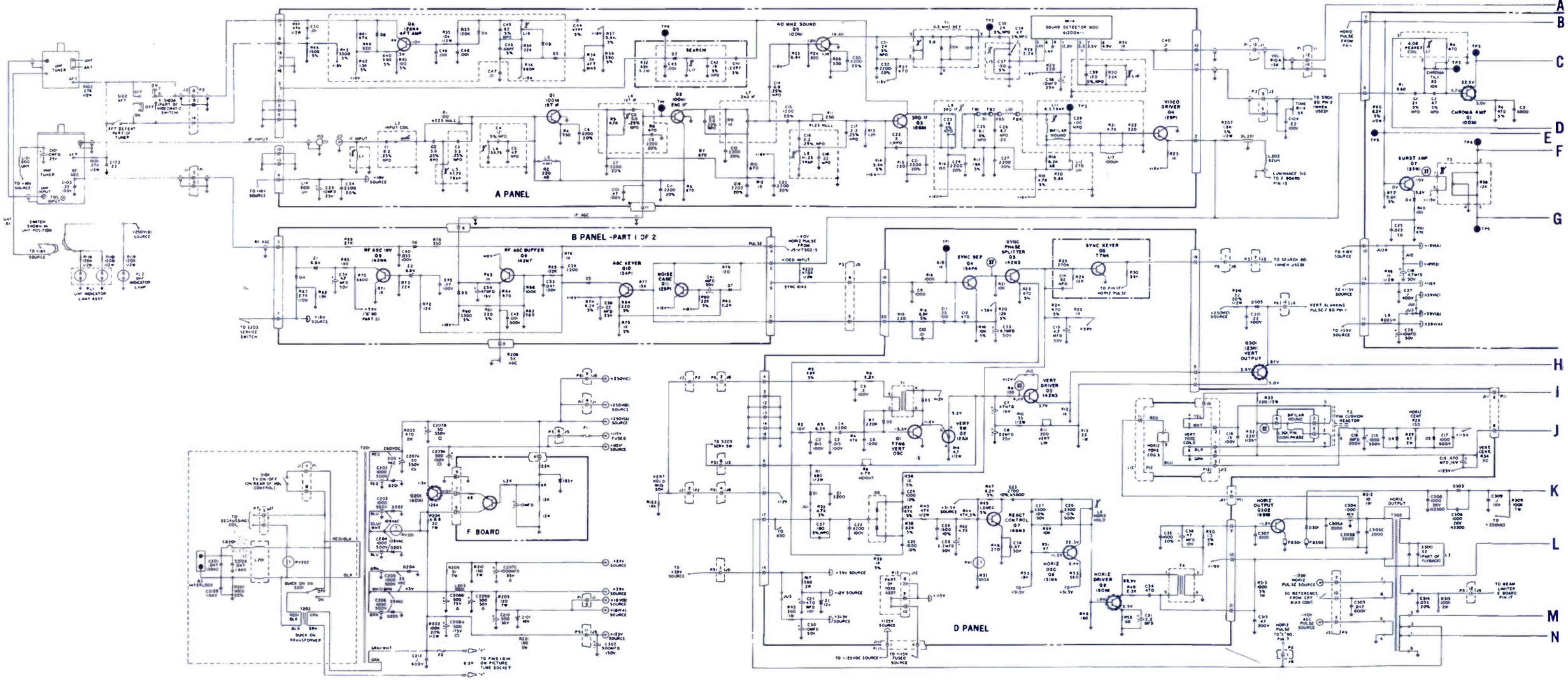
D PANEL

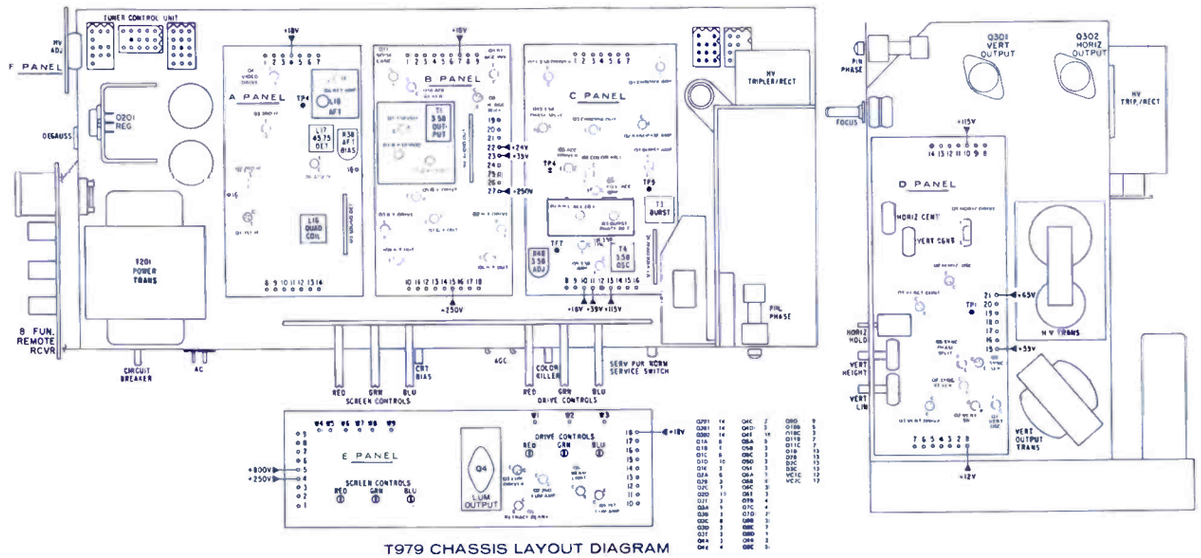


C PANEL

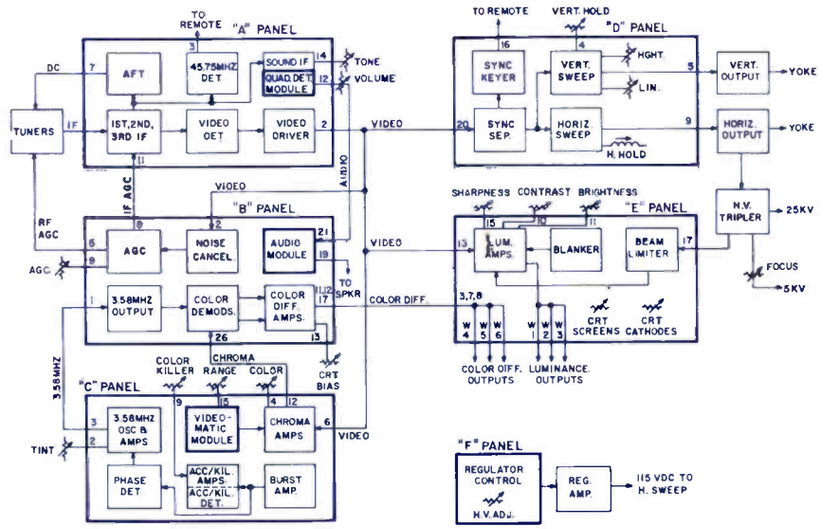


E PANEL

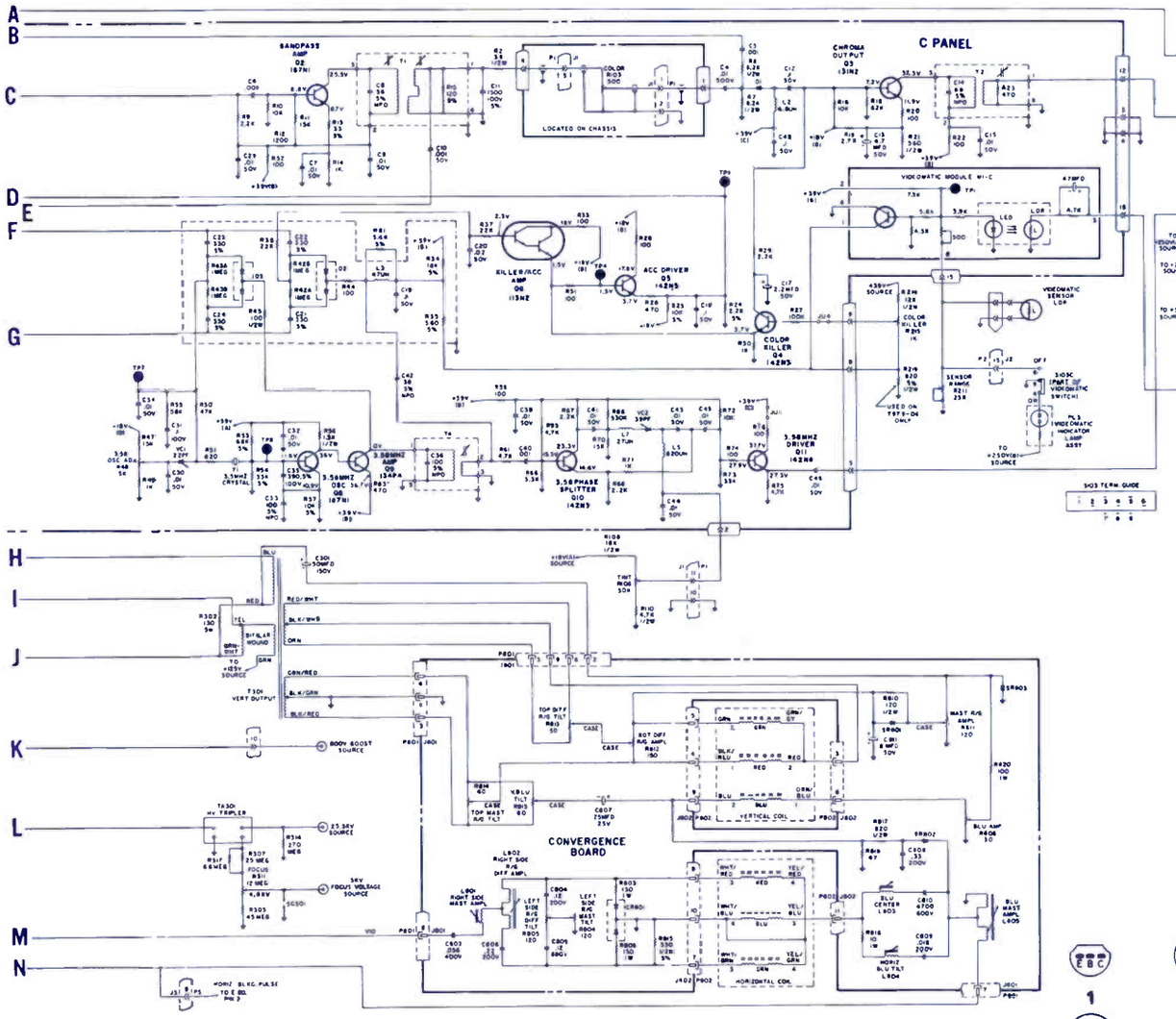


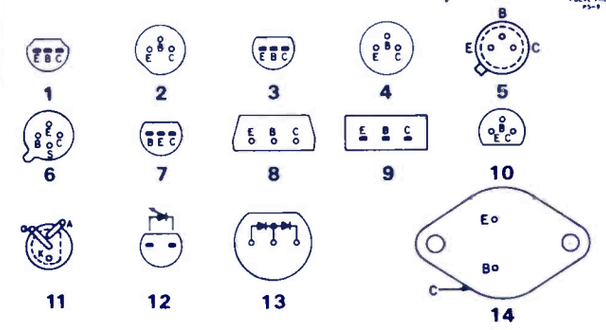


T979 CHASSIS LAYOUT DIAGRAM



T979 SIGNAL FLOW DIAGRAM

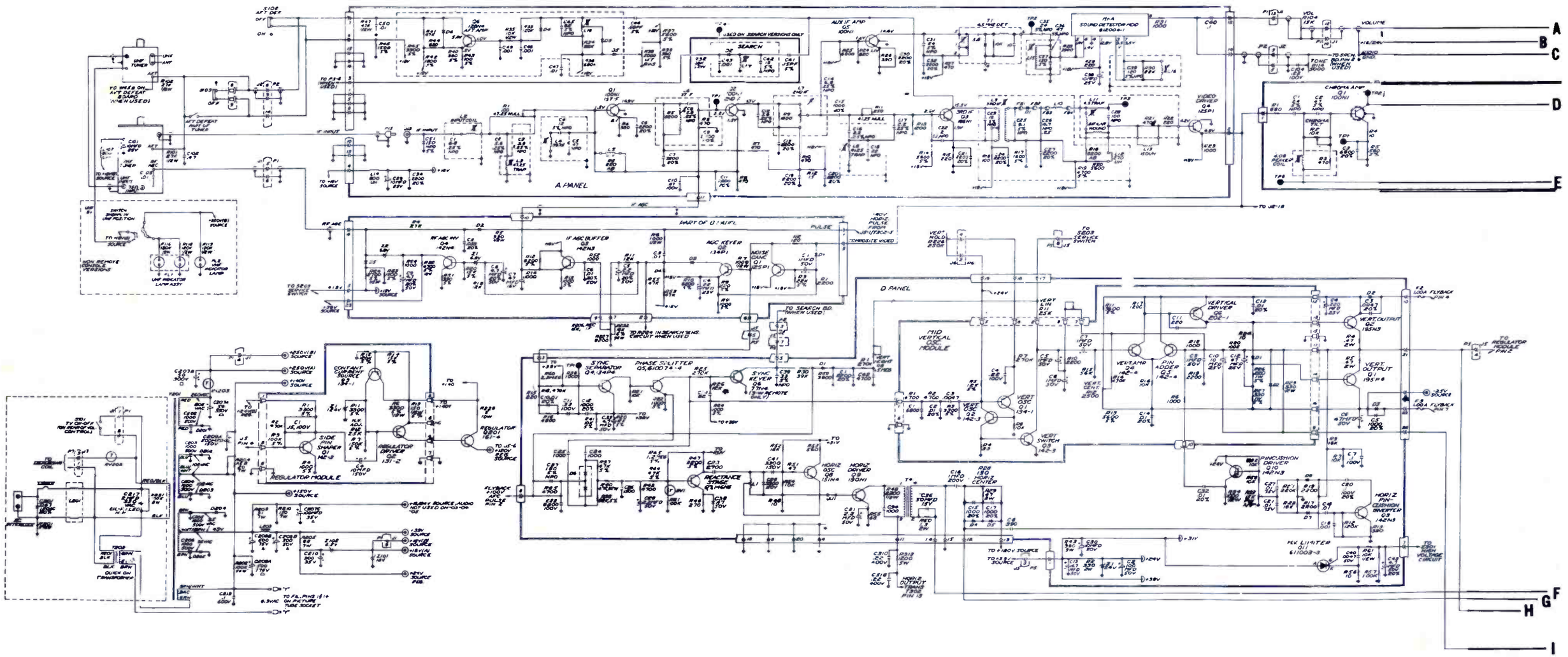


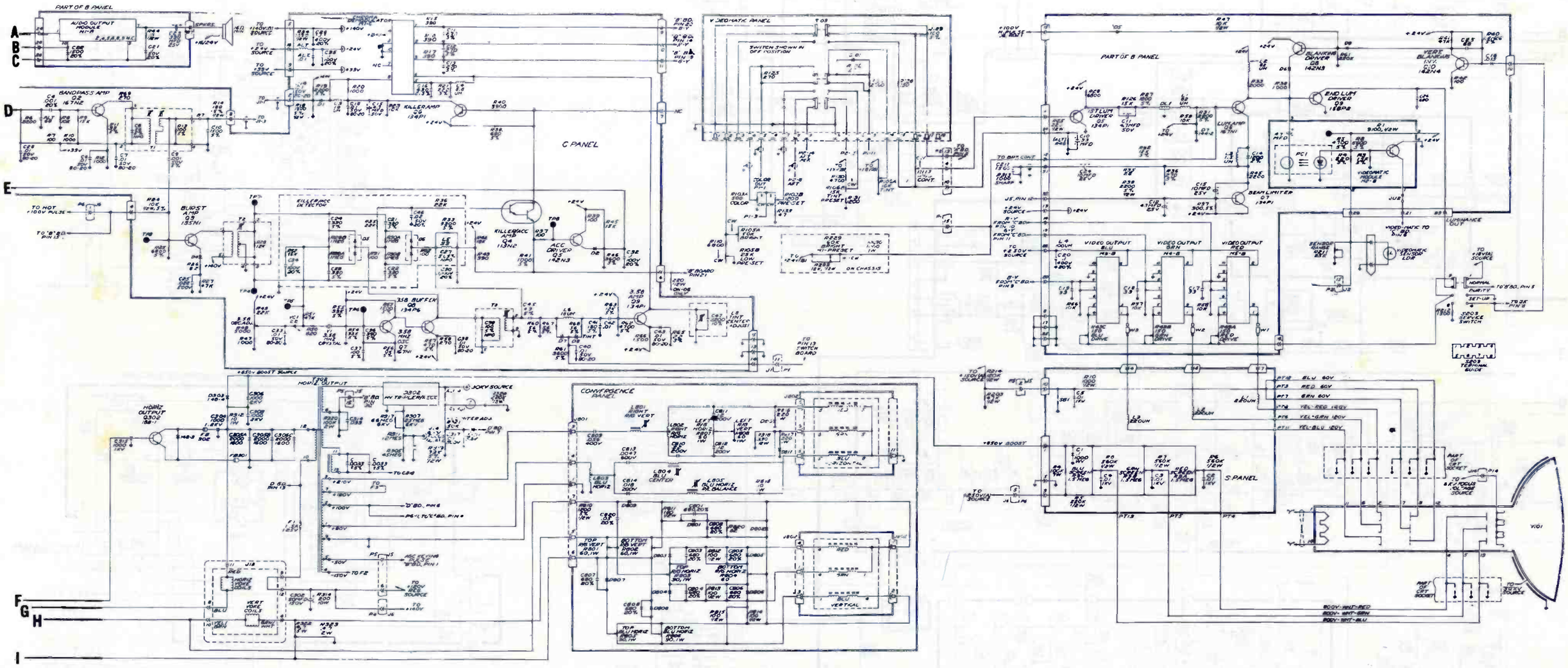


TRANSISTOR & DIODE BASINGS

Q201	14	Q4C	3	Q2C	7	Q6C	3	Q9D	9
Q301	14	Q4D	2	Q2D	11	Q6E	3	Q10B	5
Q302	14	Q4E	14	Q2E	3	Q7B	4	Q10C	3
Q1A	6	Q5A	6	Q3A	1	Q7C	4	Q11B	2
Q1B	1	Q5B	3	Q3B	3	Q7D	2	Q11C	3
Q1C	6	Q5C	3	Q3C	8	Q8B	3	D1B	13
Q1D	10	Q5D	3	Q3D	3	Q8C	7	D2B	13
Q1E	3	Q5E	3	Q3E	3	Q8D	1	D2C	13
Q2A	6	Q6A	1	Q4A	3	Q9B	3	D3C	13
Q2B	3	Q6B	4	Q4B	4	Q9C	5	VC1C	12
								VC2C	12

MAGNAVOX
Color-TV
Chassis T979

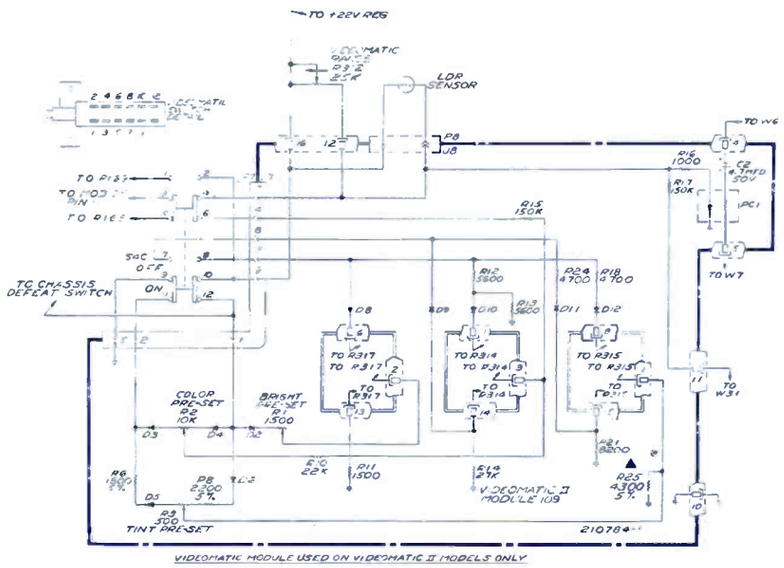

A
B
C
D
E
F
G
H
I
A PANEL
D PANEL
SEARCH
REGULATOR MODULE
MID VERTICAL OSC MODULE
SYNC SEPARATOR
PHASE SPLITTER
SYNC KEYER
REACTANCE SYNTHESIZER
HORIZ DRIVER
HORIZ OSC
VERTICAL DRIVER
VERT OUTPUT
PINCUSHION DRIVER
HV LIMITER
AGC KEYER
IF AGC BUFFER
AUX IF AMP
CHROMA AMP
VOLUME
VIDEO DRIVER
SOUND DETECTOR MOD
CONTRAST CONTROL
SIDE PIN SHARER
REGULATOR DRIVER
VERT OSC
VERT SWITCH
PIN AMP
VERTAMP
PINCUSHION CENTERING
TO CRT


A
B
C
D
E
F
G
H
I
C PANEL
V DEFLECTION PANEL
S PANEL
CONVERGENCE PANEL
PART OF B PANEL
AUDIO OUTPUT MODULE M1-A
BANDPASS AMP Q2 1S7N2
BURST AMP Q3 1S5N1
KILLER AMP Q4 1S3N2
KILLER ACC DETECTOR
ACC DRIVER Q5 1S2N3
3.58 BUFFER Q6 1S4P6
3.58 OSC AMP Q7 1S3N1
3.58 CRYSTAL
KILLER AMP Q8 1S4P1
HORIZ OUTPUT Q302 1S8-1
HV TRIPLER/FOCUS
VERT HOLD COILS
VERT OSC Q1 1S4P1
VERT BLANKING DRIVER Q8 1S2N3
VERT BLANKING INV. Q10 1S2N4
LUM AMP Q9 1S4N1
LUM DRIVER Q11 1S4P1
BEAM LIMITER Q7 1S4P1
END LUM DRIVER Q9 1S8N2
VIDEO OUTPUT BLU M5-B
VIDEO OUTPUT GRN M4-B
VIDEO OUTPUT RED M3-B
VIDEOMATIC MODULE M7-B
VIDEOMATIC TO CRT BD.
LUMINANCE OUT
TO EXTERNAL SOURCE
NORMAL
PURITY
SET-UP
S303 SERVICE SWITCH
S303 TERMINAL GUIDE
TO PIN 13 SWITCH BOARD
TO I.F. BOARD PIN 21
TO HOT +100V PULSE
TO "B" BD. PIN 13
TO "B" BD. PIN 11
TO "B" BD. PIN 5
TO "B" BD. PIN 6
TO "C" BD. PIN 6
TO "C" BD. PIN 8
TO "C" BD. PIN 11
TO "C" BD. PIN 12
TO "C" BD. PIN 15
TO "C" BD. PIN 16
TO "C" BD. PIN 17
TO "C" BD. PIN 18
TO "C" BD. PIN 19
TO "C" BD. PIN 20
TO "C" BD. PIN 21
TO "C" BD. PIN 22
TO "C" BD. PIN

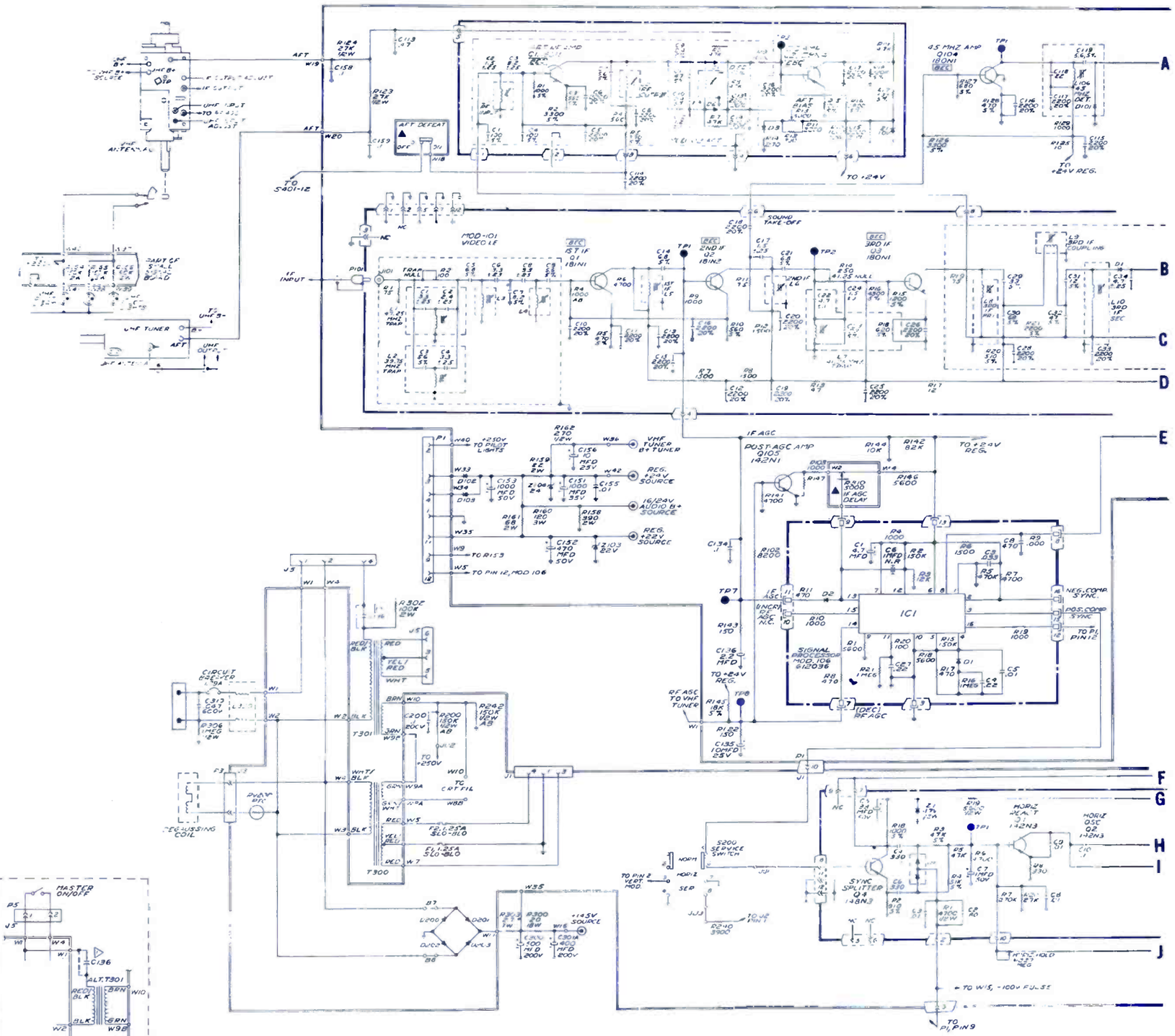
MAGNAVOX

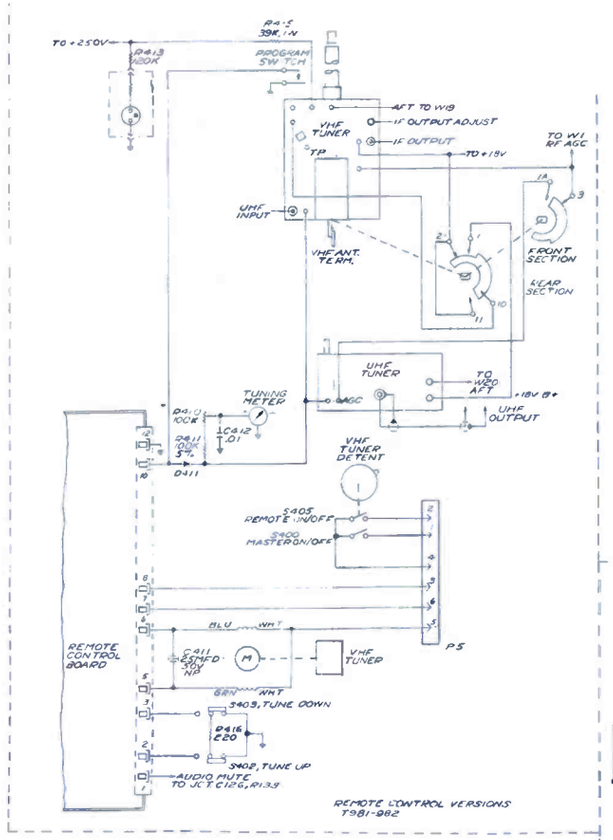
Color-TV Chassis
T981,T982,T987

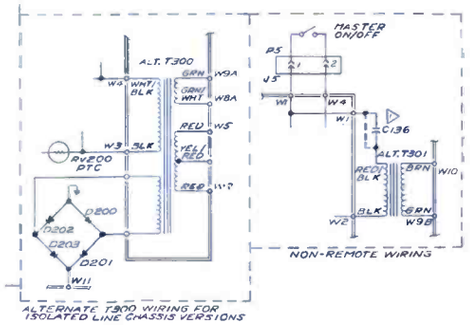
SYMBOL	DESCRIPTION	MAGNAVOX PART NO.
L109	4.5MHz quad coil	361389-2
L114	3.58MHz output coil	361398-9
T101	chroma bandpass xformer	361498-1
R202	vert height 50K	220220-20
R203	vert lin 25K	220220-26
R227	horiz hold 1M	220220-38
R302	focus 12M	220249-4
R308	horiz center	220181-19
S200	service switch	160462-1
RV200	thermistor	230207-5
T301	power xformer T981-01, 02	300297-3
T301	power xformer T981-03	300299-2
T301	power xformer T982-01, 02	300310-4
T302	horiz output xformer T981	361488-1
T302	horiz output xformer T982	361488-2
R301	HV/focus divider T981	230199-4
R301	HV/focus divider T982, T987	230199-3
R313	vert hold 250K T981	220293-28
R313	vert hold 250K T982	220293-30
R313	vert hold 250K T987	220293-22
R314	color 10K T981	220293-27
R314	color 10K T982	220293-29
R314	color 10K T987	220294-8
R315	tint 10K T981	220293-3
R315	tint 10K T982	220293-17
R315	tint 10K T987	220294-7
R316	contrast 1.5K T981	220293-4
R316	contrast 1.5K T982	220293-18
R316	contrast 1.5K T987-01	220294-6
R316	contrast 1.5K T987-02	220293-23
R317	brite 1.5K T981	220293-4
R317	brite 1.5K T982	220293-18
R317	brite 1.5K T987-01	220294-6
R317	brite 1.5K T987-02	220294-6
R319	sharpness 1K	220293-6
S401	videomatic switch T981-02, T982-02 T987-02	160511-7

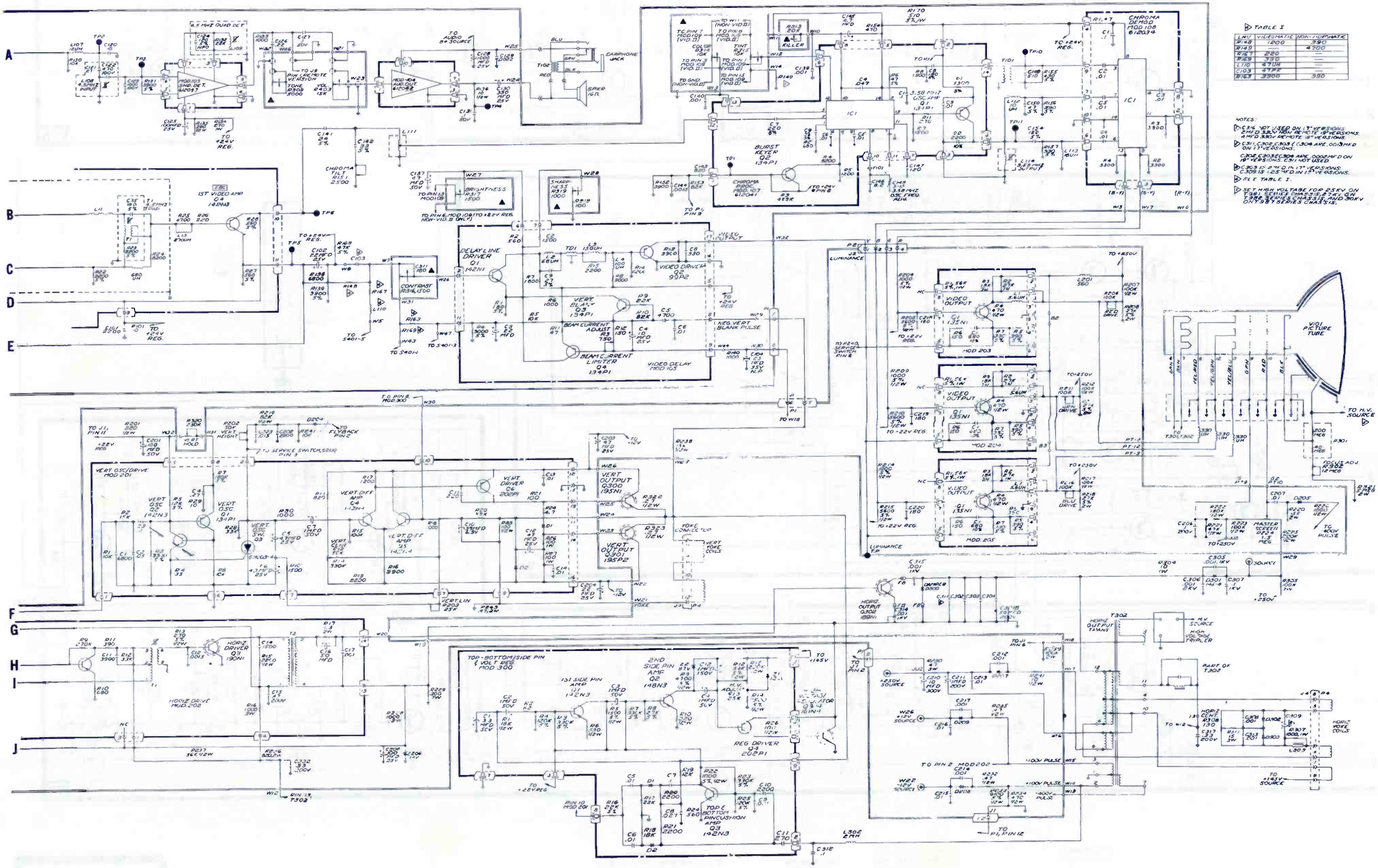


VIDEOMATIC MODULE USED ON VIDEOMATIC II MODELS ONLY

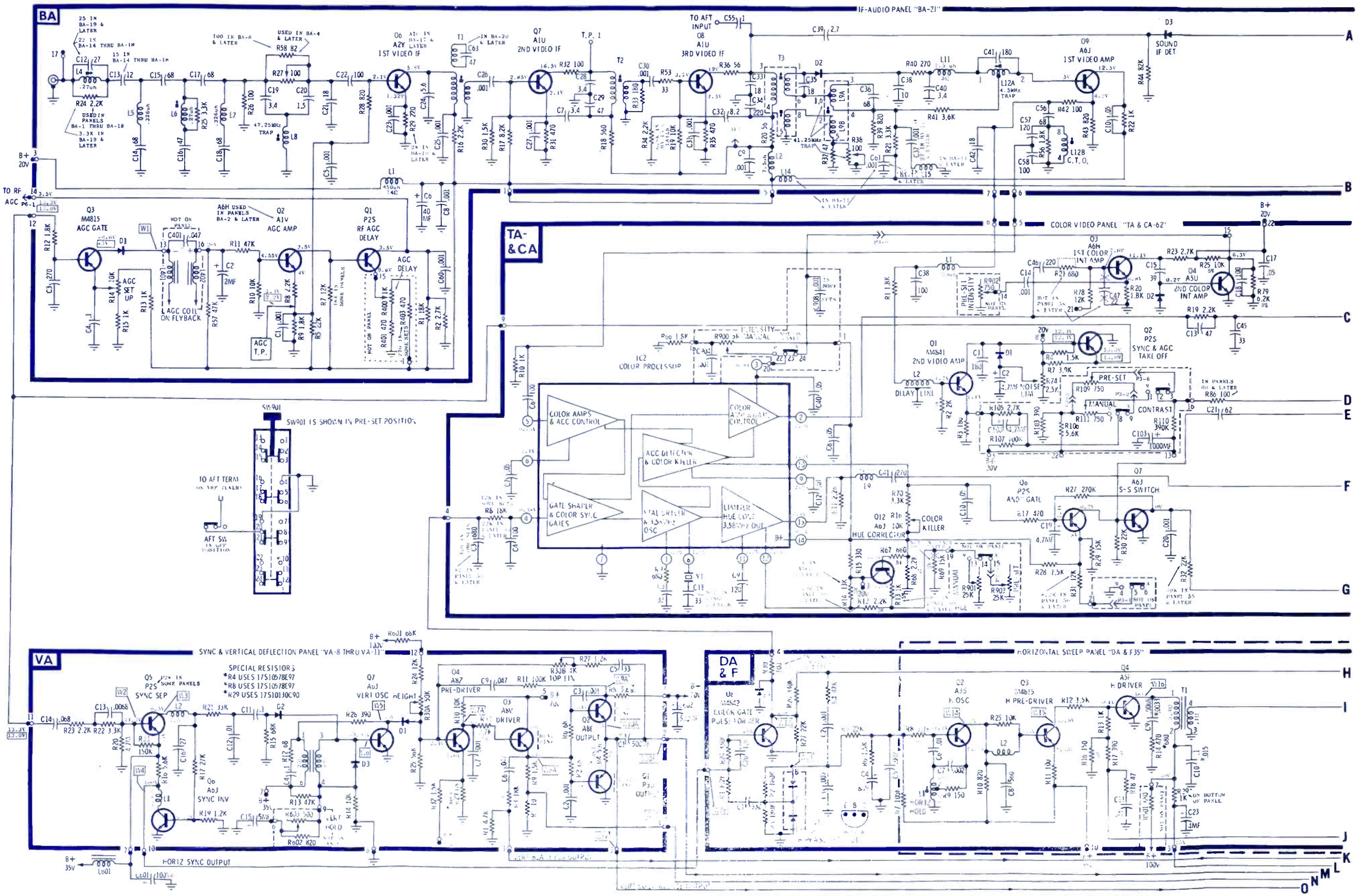


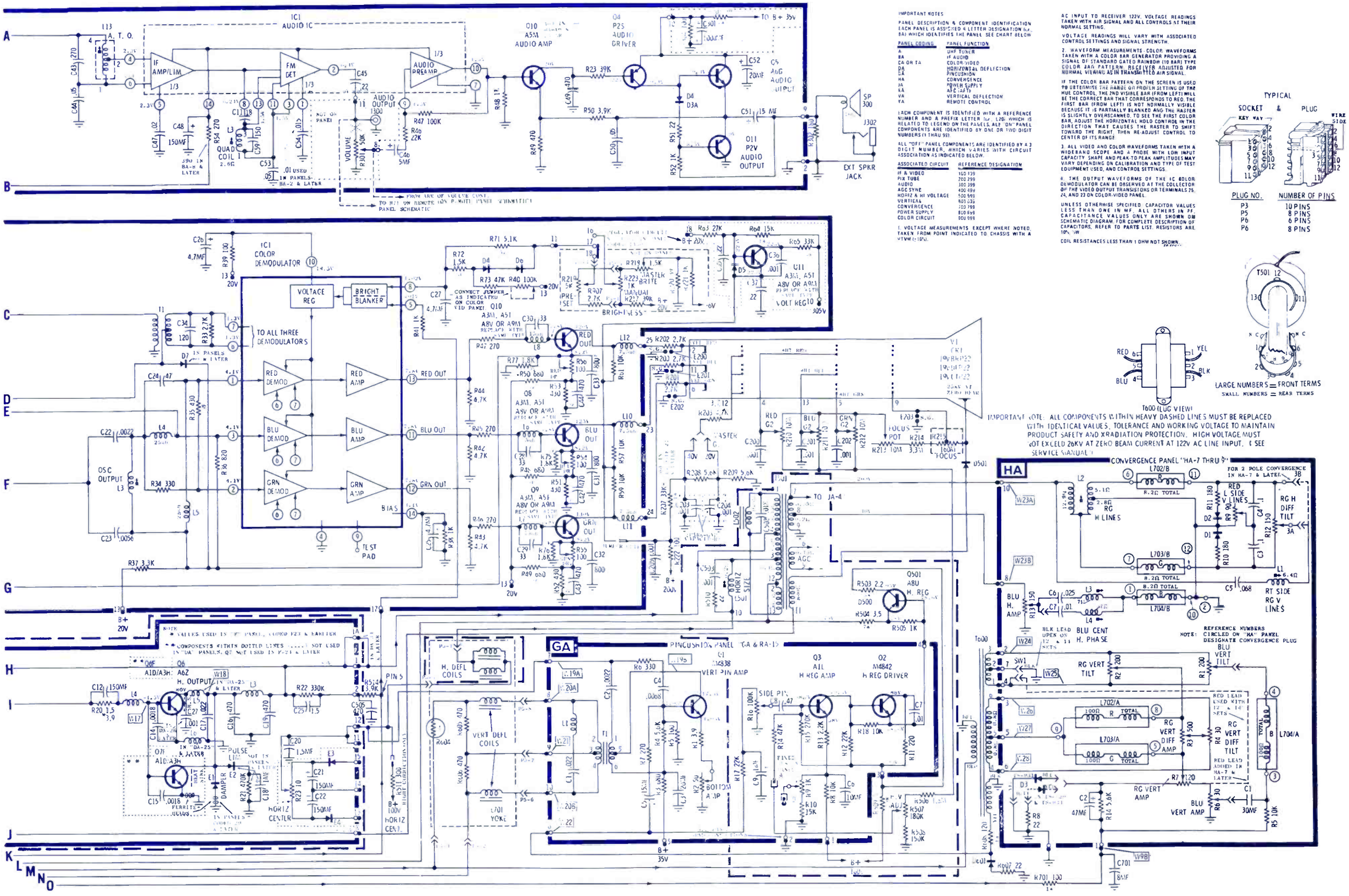





A
B
C
D
E
F
G
H
I
J
TABLE I
LINE | VIDEOMATIC | NON-VIDEOMATIC
R148 | 1200 | 390
R193 | — | 4700
R167 | 220 | —
R169 | 330 | —
L110 | 47UH | —
C103 | 47PF | —
R163 | 3900 | 330
NOTES:
C316 NOT USED ON 13" VERSIONS. 2MFD 385V NON-REMOTE 19" VERSIONS. 4MFD 385V REMOTE 19" VERSIONS.
C311, C302, C303 (.039 MFD, C309 ARE .0018MFD ON 17" VERSIONS. C302, C303 C309 ARE .0068MFD ON 19" VERSIONS. C311 NOT USED.
C309 IS .27MFD IN 17" VERSIONS. C309 IS 1.25 MFD IN 19" VERSIONS.
SEE TABLE I.
SET HIGH VOLTAGE FOR 25KV ON T981 SERIES CHASSIS, 27KV ON T982 SERIES CHASSIS, AND 30KV ON T987 SERIES CHASSIS.
IST VIDEO AMP Q4 1482N3
DELAY LINE DRIVER Q1 1482N1
VIDEO DRIVER Q2 99P2
CONTRAST R316, 1500
BRIGHTNESS R317 1500
SHARPNESS R319 1000
BURST KEYER Q2 134P1
CHROMA DEMOD MOD 108 612034
CHROMA PROC MOD 107 612041
IC1
VERT. BLANKING Q3 134P1
BEAM CURRENT ADJUST R3 750
BEAM CURRENT LIMITER Q4 134P1
VIDEO DELAY MOD 105
NEG. VERT. BLANK PULSE
VIDEO OUTPUT Q1 135N1
MOD 203
MOD 204
MOD 205
VID PICTURE TUBE
TO H.V. SOURCE
FOCUS ADJ R302 12 MEG
VERT OSC/DRIVE MOD 201
VERT OSC Q2 1482N3
VERT OSC SW. Q1 134P1
VERT DIFF AMP Q4 1482N1
VERT DRIVER Q6 202P1
VERT OUTPUT Q300 193N1
VERT OUTPUT Q301 193P2
VERT CENT R313 5K
VERT SIZE R314 25K
VERT LIN R203 25K
VERT TOKE COILS
HORIZ DRIVE MOD 202
HORIZ DRIVER Q5 190N1
HORIZ OUTPUT Q302 189N1
DAMPER D300
HORIZ OUTPUT TRANS T302
HIGH VOLTAGE TRIPLER
PART OF T302
HORIZ CENT R308 130
HORIZ SIZE R307 1000
HORIZ COILS
TOP-BOTTOM/SIDE PIN & VOLT REG MOD 300
2ND SIDE PIN AMP Q2 148N3
131 SIDE PIN AMP Q1 142N3
REG DRIVER Q3 202P1
TOP & BOTTOM PINCUSHION AMP Q3 142N3
MAGNAVOX
Color-TV Chassis
T981,T982,T987
73

SYMBOL	DESCRIPTION	PART NO.
CB800	Circuit breaker	80C66390A22
R109	contrast: dual: 750Ω manual & preset (R-111)	18D65082A39
R213	focus: 10M	18D67502A20
R218	master brightness, 1.5K	18D67858A21
R219	brightness, dual, preset 2K & manual 1K (R223)	18D65082A40
R301	vol, 50K, incls on-off switch (E19TS931)	18D67562C31
R400	AGC delay, 1K	18D67858A06
R507	HV adjust, 180K	18D67858A09
R603	vert hold, 500Ω	18D65082A43
R901	hue, dual 25K, manual & preset (R903)	18D65082A42
R902	part of R900	
T501	HV xformer	24D70809A04
T800	power xformer	25D68548A15





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
EA	PINCUSHION
HA	CONVERGENCE
JA	POWER SUPPLY
KA	A.F.C. (A.P.C.)
VA	VERTICAL DEFLECTION
YA	REMOTE CONTROL

EACH COMPONENT IS IDENTIFIED WITH A REFERENCE NUMBER AND A PREFIX LETTER (i.e., L20) 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
AGC 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 EXCEPT WHERE NOTED, TAKEN FROM POINT INDICATED TO CHASSIS WITH A VTVM (±10%).

AC INPUT TO RECEIVER 122V. VOLTAGE READINGS TAKEN WITH AIR SIGNAL AND 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 (10 BAR) TYPE COLOR BAR PATTERN. RECEIVER ADJUSTED FOR NORMAL VIEWING AS IN TRANSMITTED AIR SIGNAL.

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 OR TERMINALS 25, 24, AND 23 ON COLOR-VIDEO PANEL.

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

PLUG NO.	NUMBER OF PINS
P3	10 PINS
P5	8 PINS
P6	6 PINS
P6	8 PINS

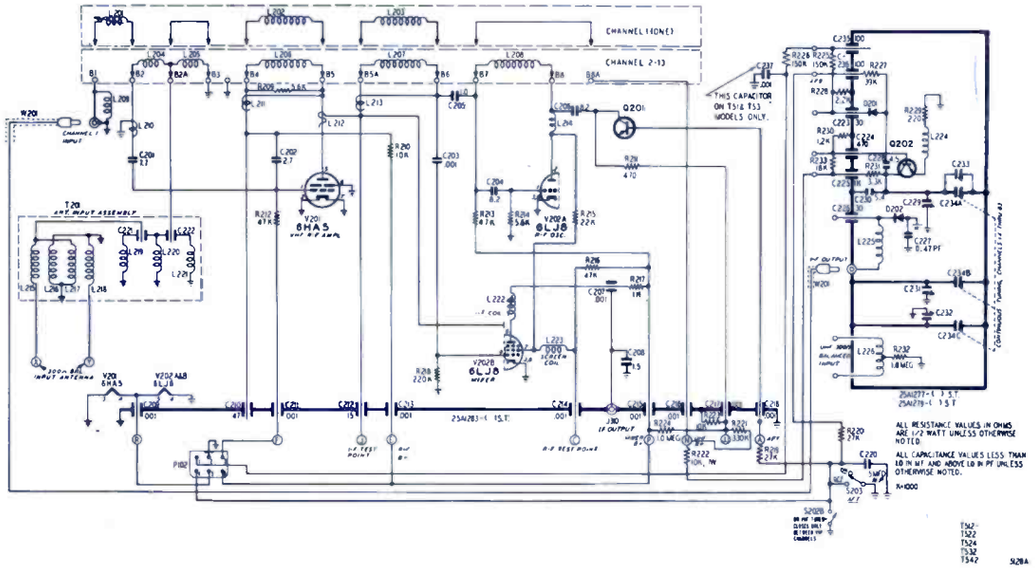
T600 (LUG VIEW)

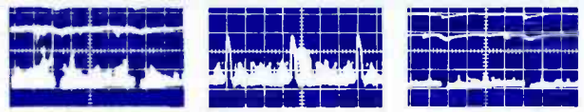
IMPORTANT NOTE: ALL COMPONENTS WITHIN HEAVY DASHED LINES MUST BE REPLACED WITH IDENTICAL VALUES, TOLERANCE AND WORKING VOLTAGE TO MAINTAIN PRODUCT SAFETY AND XRADIATION PROTECTION. HIGH VOLTAGE MUST NOT EXCEED 26KV AT ZERO BEAM CURRENT AT 122V AC LINE INPUT. (SEE SERVICE MANUAL)

MOTOROLA
Color-TV Chassis
TS-931

MGA
Color-TV Models
CM-250A, 51A, 52A

SARKES - TARZIAN TUNERS

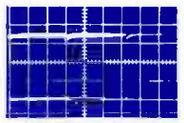




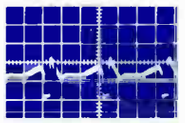
1. Vert. Rate 2.2V P-P

2. Horiz. Rate 14.8V P-P

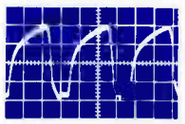
3. Vert. Rate 2.0V P-P



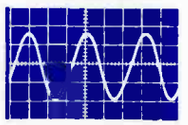
4. Horiz. Rate 34V P-P



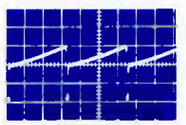
5. Horiz. Rate 11.5V P-P



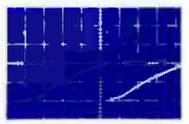
6. Horiz. Rate 20V P-P



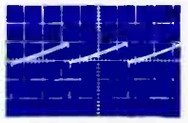
7. Horiz. Rate 180V P-P



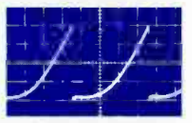
8. Vert. Rate 150V P-P



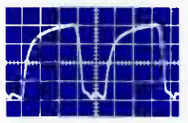
9. Vert. Rate 80V P-P



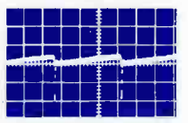
10. Vert. Rate 150V P-P



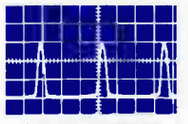
11. Vert. Rate 20V P-P



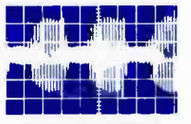
12. Horiz. Rate 205V P-P



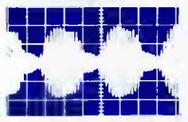
13. Vert. Rate 120V P-P



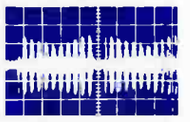
14. Horiz. Rate 300V P-P



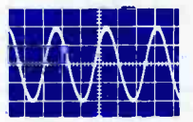
15. Horiz. Rate 2.4V P-P



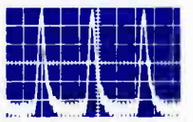
16. Horiz. Rate 6.8V P-P



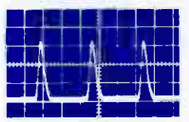
17. Horiz. Rate 6.8V P-P



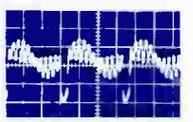
18. Horiz. Rate 8.0V P-P



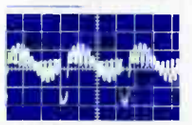
19. Horiz. Rate 60V P-P



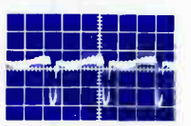
20. Horiz. Rate 165V P-P



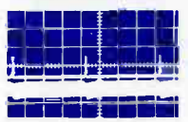
21. Horiz. Rate 170V P-P



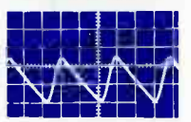
22. Horiz. Rate 170V P-P



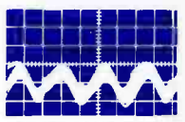
23. Horiz. Rate 135V P-P



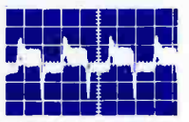
24. Vert. Rate 125V P-P



25. Vert. Rate 13.0V P-P



26. Vert. Rate 0.4V P-P



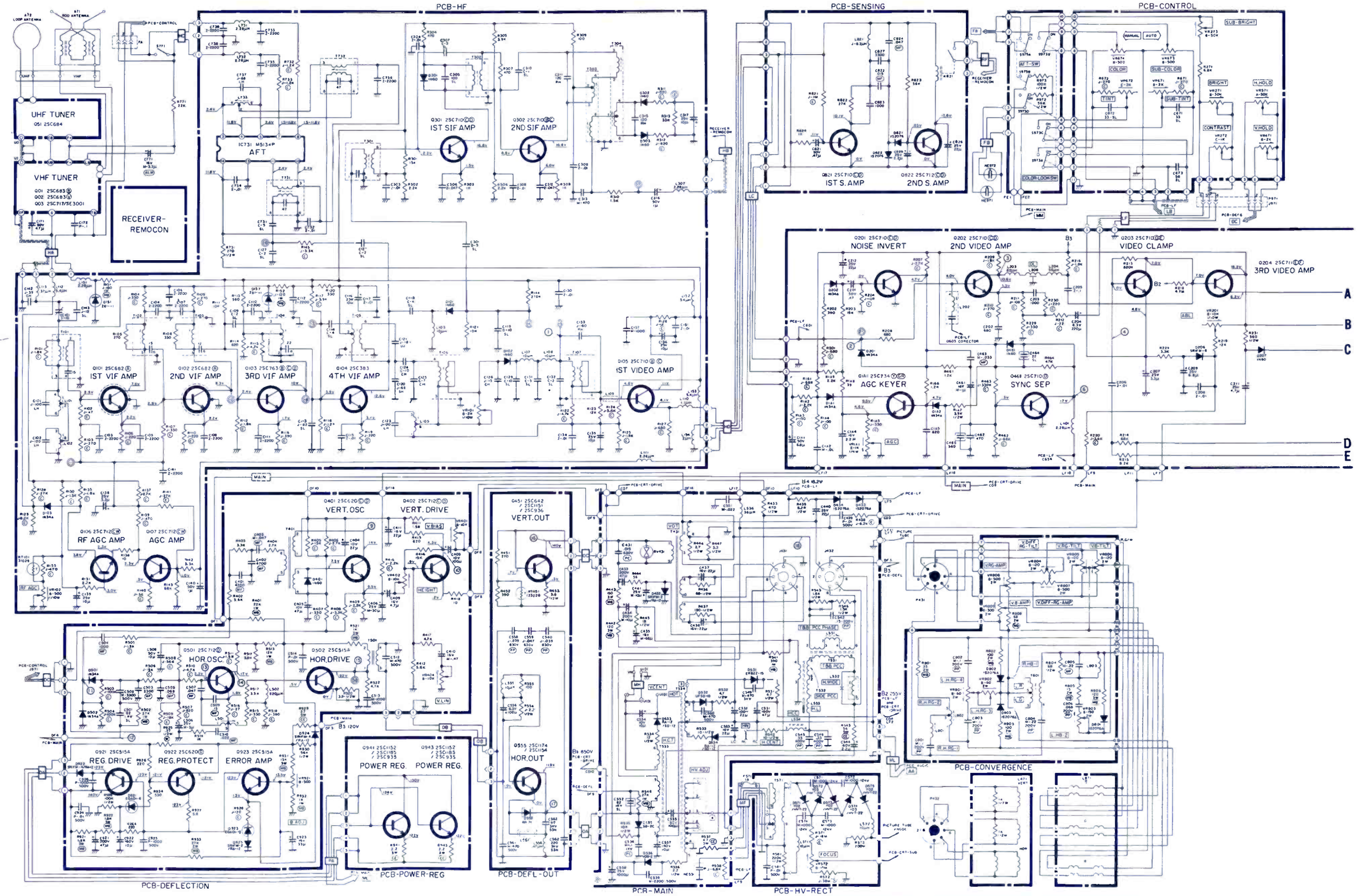
27. Horiz. Rate 10.6V P-P

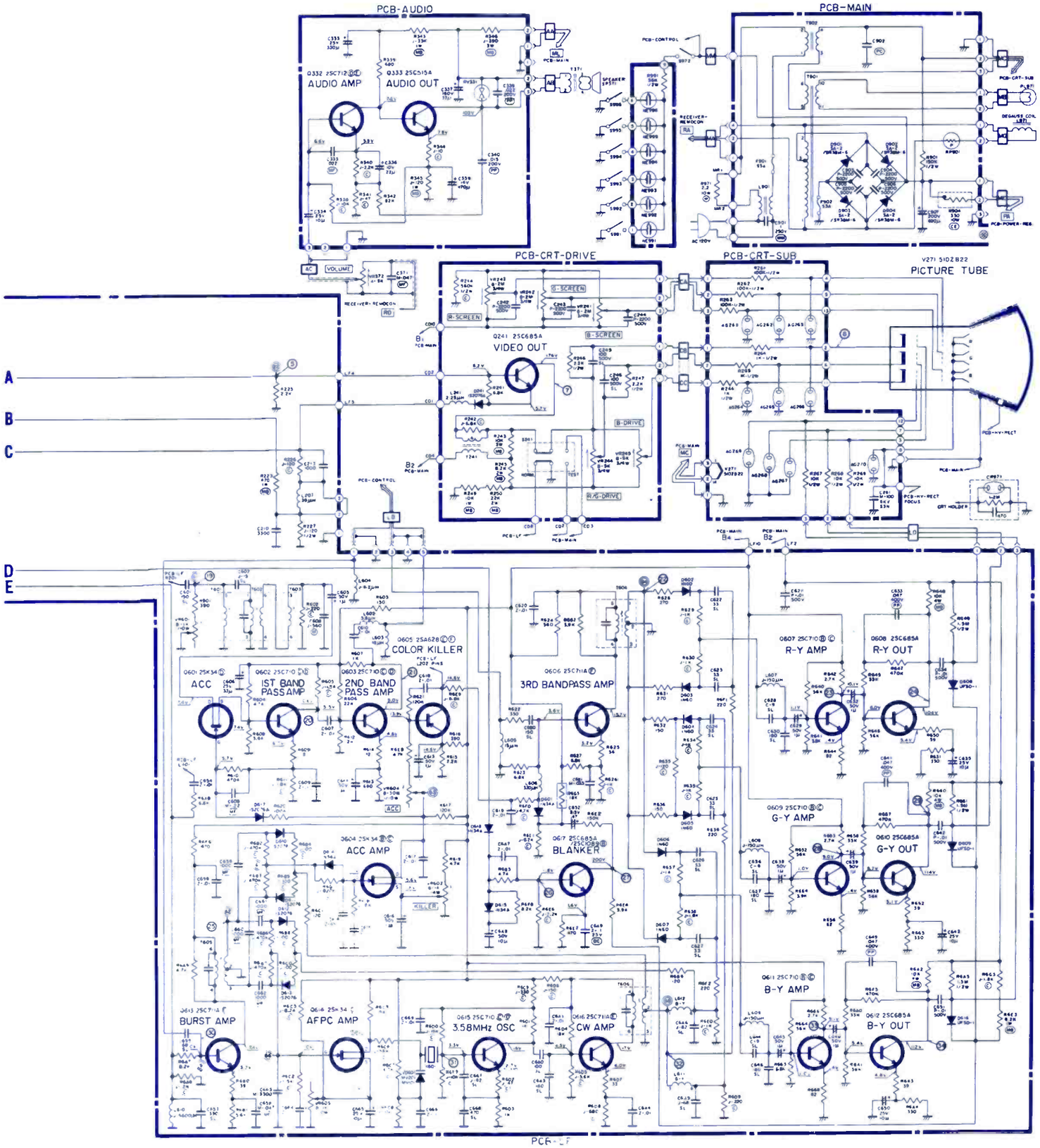
MGA
Color-TV Models
CM-250A, 51A, 52A

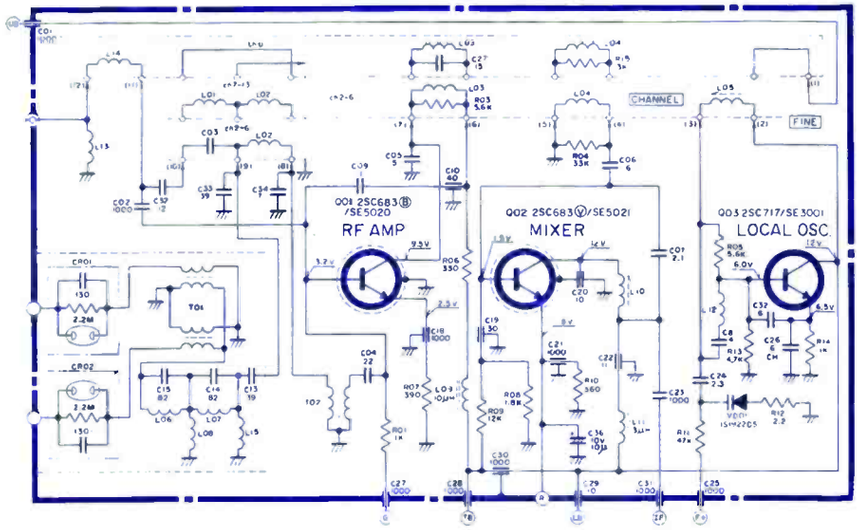
MGA

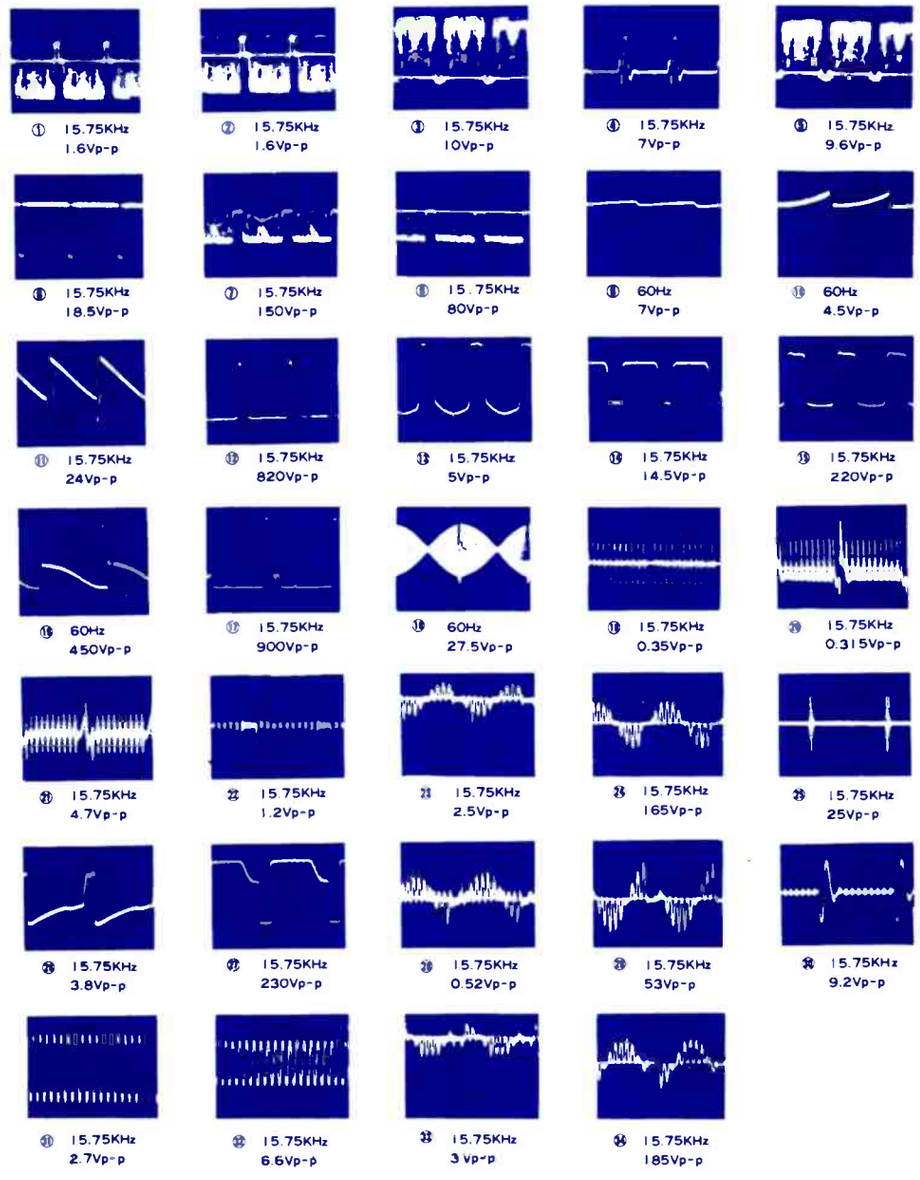
Color-TV Model
CS-197

SYMBOL	DESCRIPTION	PART NO.
IC731	Integrated circuit M5134P AFT	260P00301
RV331	varistor	265P02001
T301	sound IF	327P02002
T304	sound detector	327PO3301
T371	audio output xformer	327PO1402
T401	vert OSC	328PO0302
T431	vert output	329CO1901
T534	horiz output xformer	336BO0202
T571	flyback	334PO5802
T601	chroma take-off	349PO3301
T602	chroma 1st band pass	349PO3401
T604	chroma output	349PO3601
T605	chroma burst	349PO3701
T901	power	350PO3504
L471	deflection yoke	330PO2903
L501	horiz OSC	332CO0201
L532	horiz width	335CO0102
VR271	bright cont	120C14901
VR272	contrast cont	120C14006
VR273	sub-bright cont	129DO3803
VR372	pull-on/vol cont	120C13505
VR401	vert bias	129DO3304
VR402	height	129DO3304
VR404	vert lin	129DO3304
VR471	vert hold cont	120C14101
VR571	horiz hold cont	120C14306
VR602	killer cont	129DO3301
VR672	tint cont	120C14102
F571	Fuse, 1a	283DO1801
F902	fuse, 3a	283DO2005
F901	fuse, 5a	283DO2006





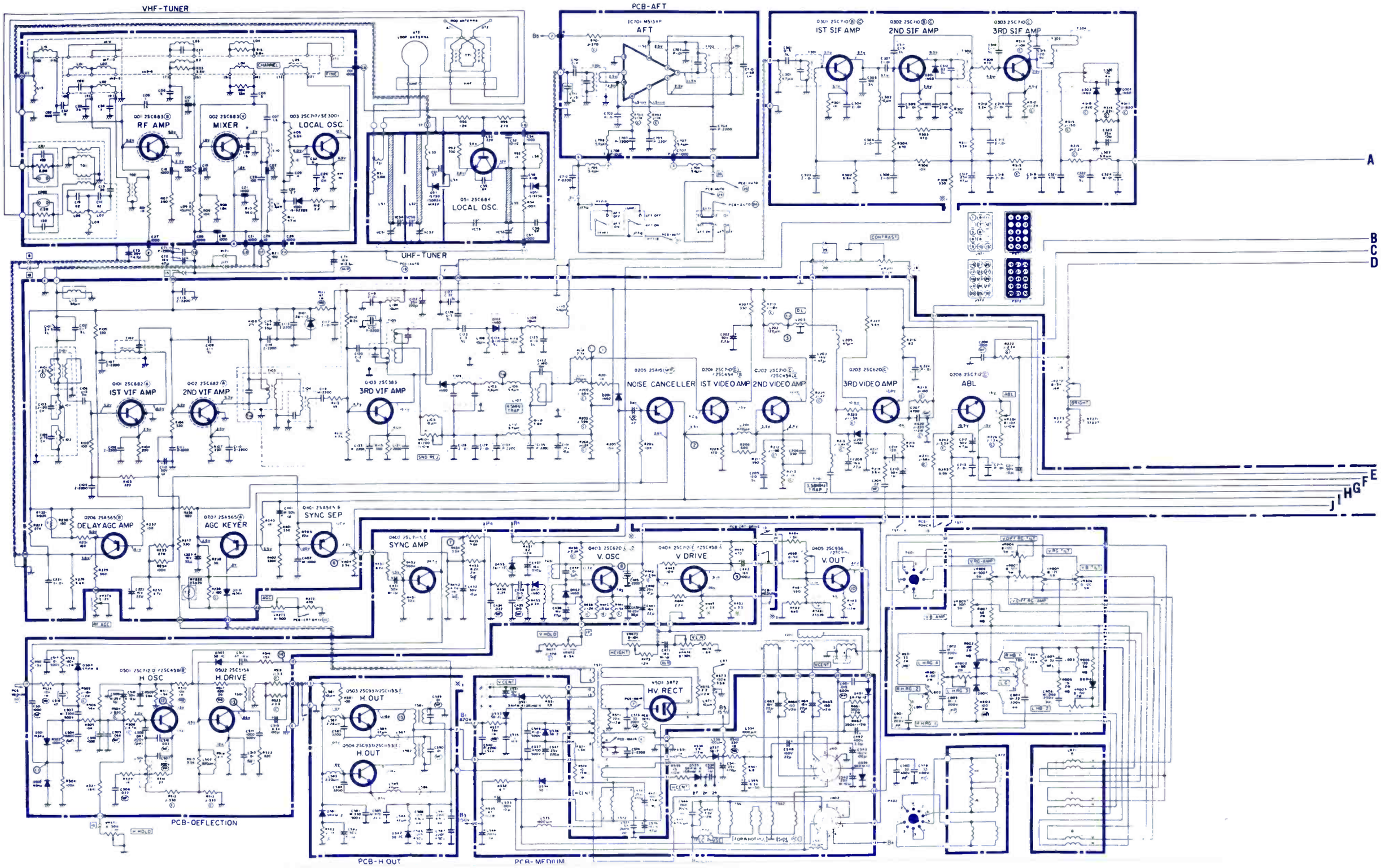


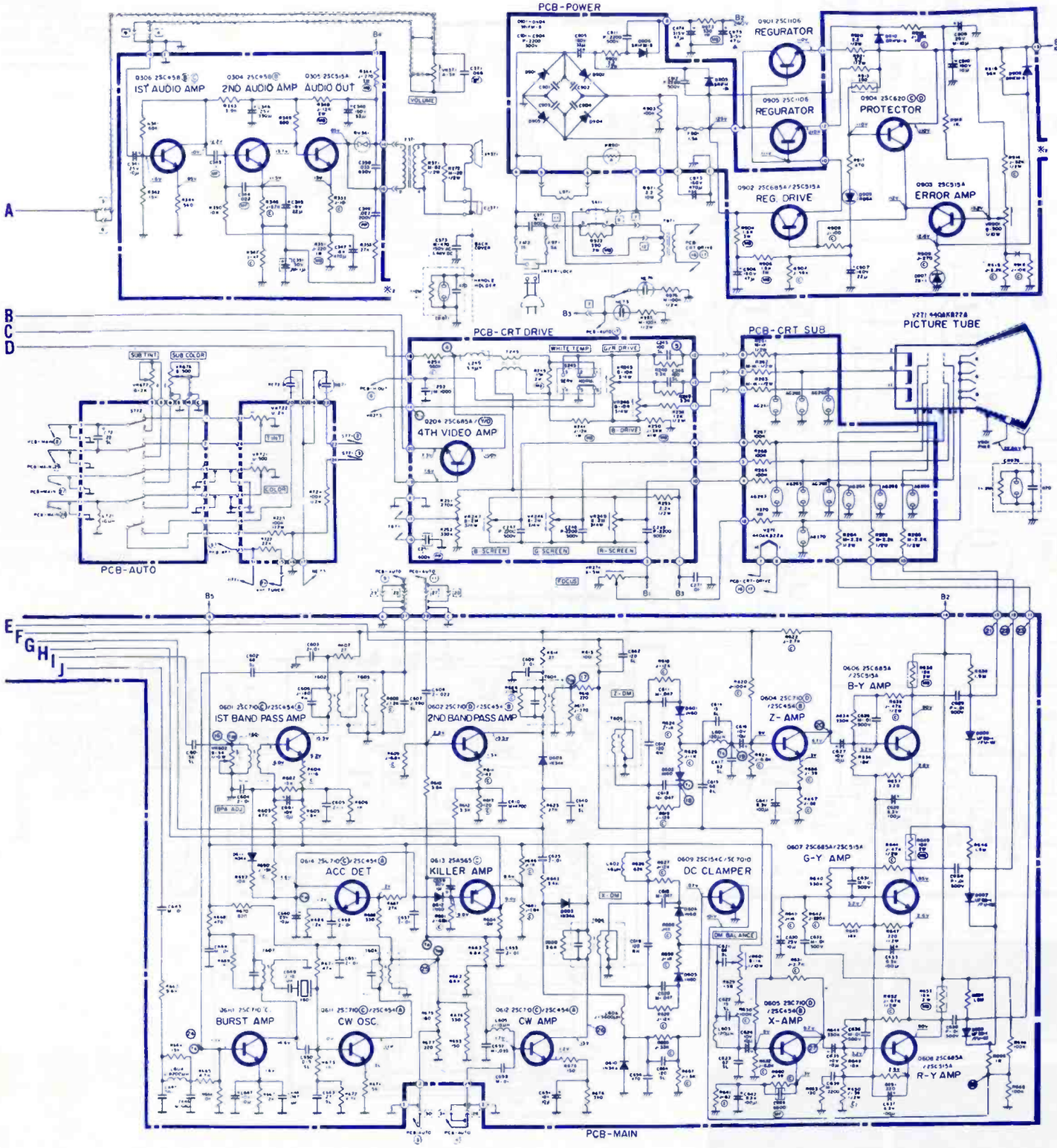


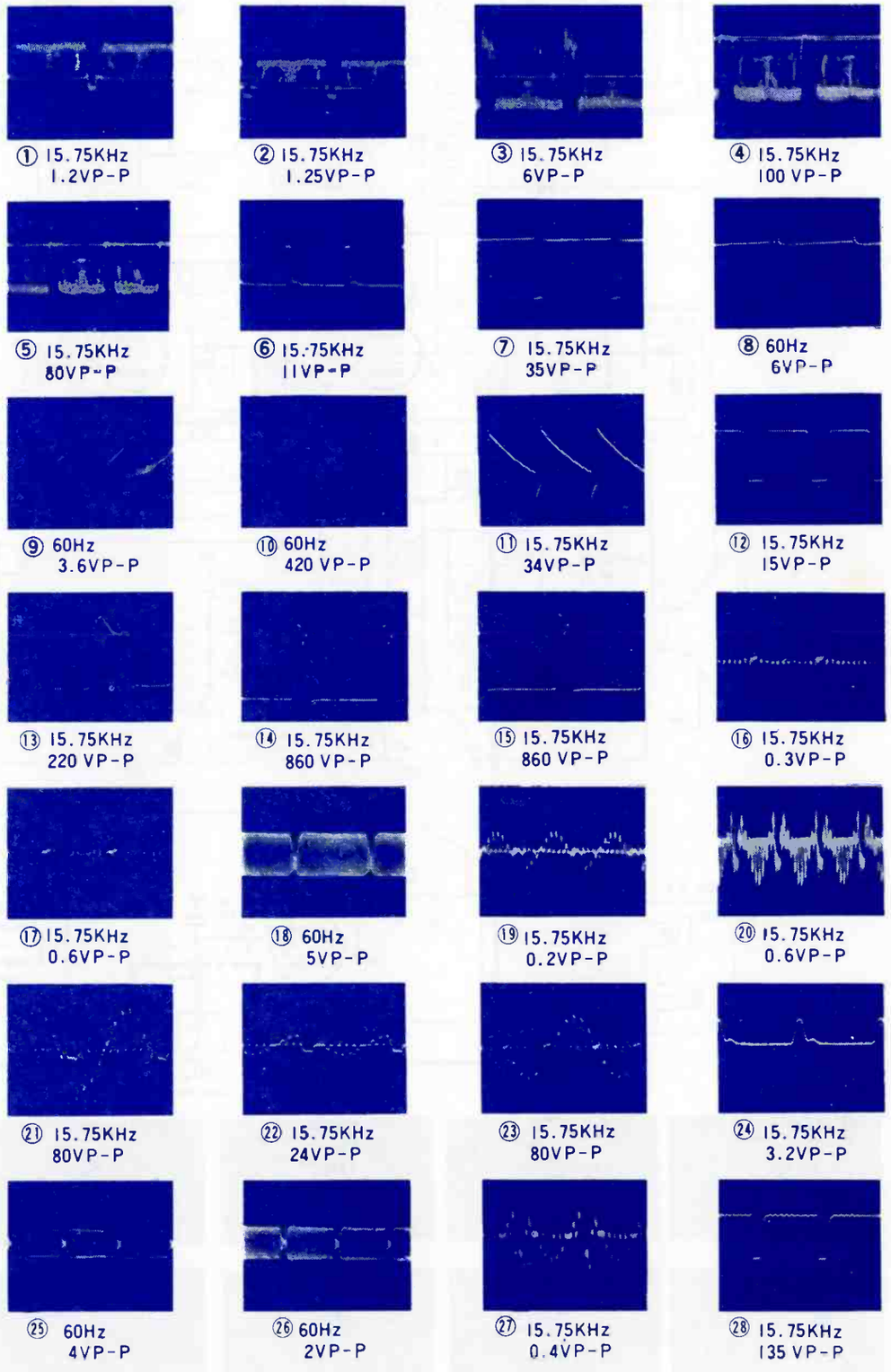
MGA
Color-TV Model
CS-197

MGA
Color-TV Model
CS-165

SYMBOL	DESCRIPTION	PART NO.
T371	audio output xformer	352P01401
T431	vert osc xformer	409P00101
T471	vert output xformer	329P00801
T501	horiz drive xformer	336P00503
T571	flyback xformer	334P05501
T572	react xformer	409B00301
T603	1st bandpass amp xformer	349P01201
T604	2nd bandpass amp xformer	349P01301
T607	burst amp xformer	349P01701
T971	power xformer	350C03001
L205	peaking 47MHK	325C01009
L472	deflect yoke	330P02904
L501	horiz osc coil	332P00501
VR271	1K contrast control	120C10101
VR272	5K brite control	120C12208
VR273	500Ω AGC control	121C01001
VR274	5M focus control	129P00402
VR275	2K RF-AGC control	121C01101
VR371	5K SW-volume control	120C13105
VR472	5K vert hold	120C12208
VR473	10K height control	121C01104
VR474	30K vert lin control	121C01403
VR481	semifixed 0.1w B-5K vert bias control	129D02505
VR571	50K horiz hold control	120C12209
VR677	2K sub tint control	121C03009
VR721	slide 500Ω color control	129C02201
VR722	slide 2K tint control	129C02204
	main	920B02202
	CRT drive	920B02302
	medium	920B02001
	power	920B02102
	auto color	920B02403
	CRT sub	920C04101
	deflect	920C04402
	AFT	920C04203
	convergence	920B01601
F531	fuse 1a	283P00101
F571	fuse 1.5a	283D00106
F971	fuse 5a	283D01607
F972	fuse 5a	283D01607

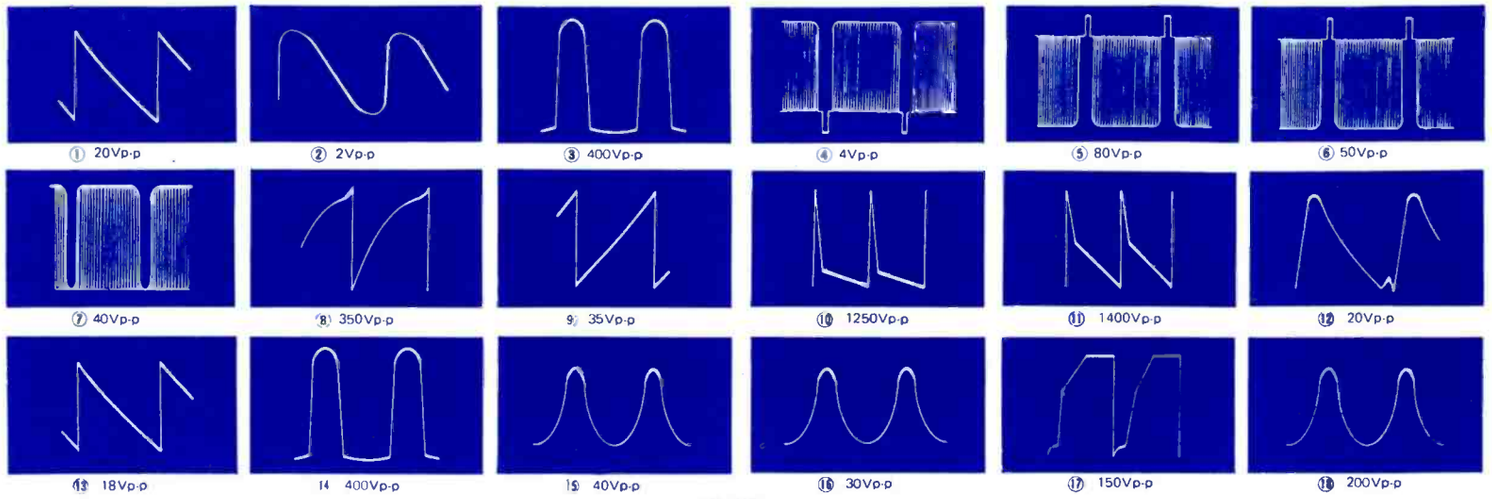


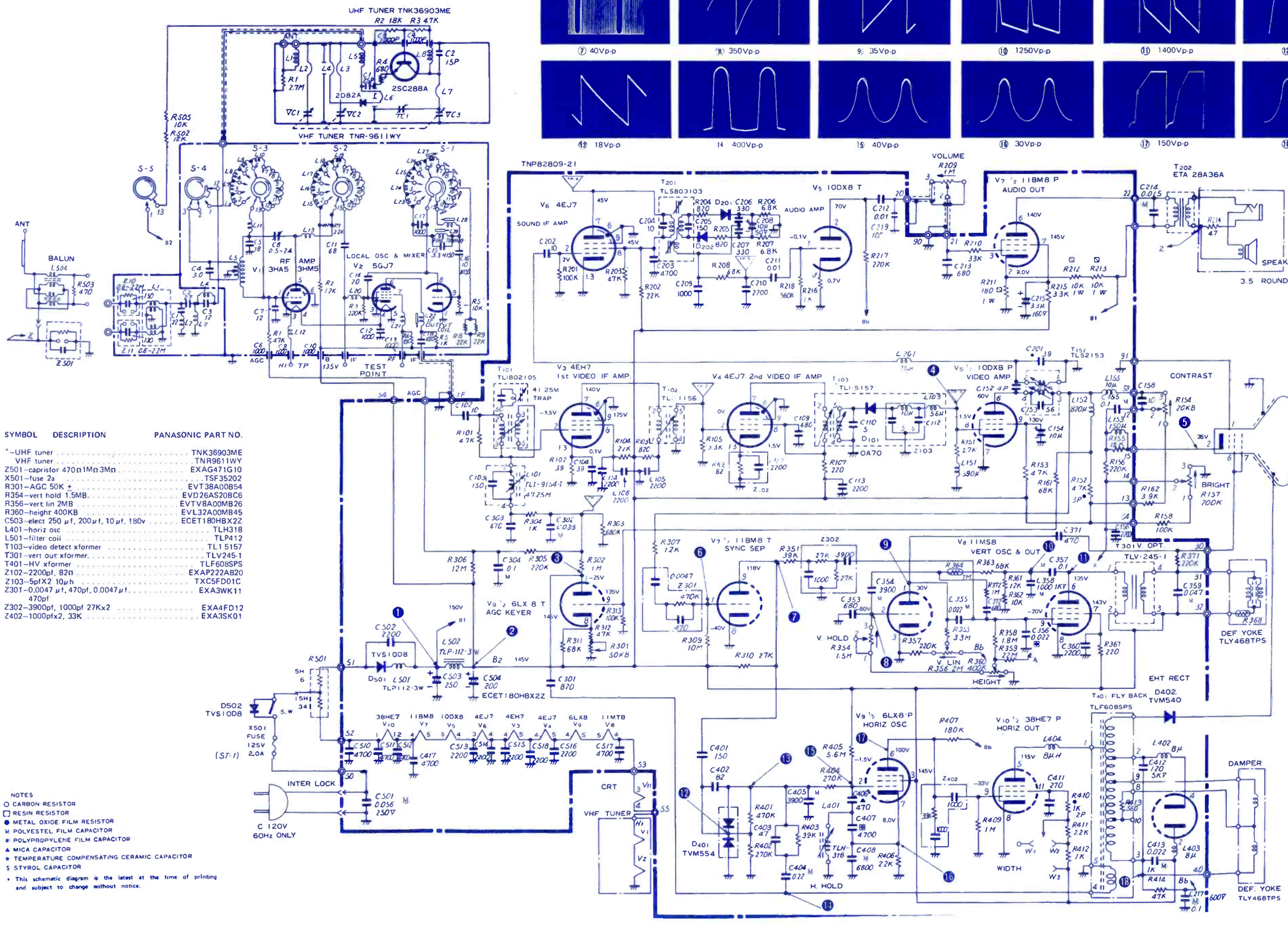




MGA
Color-TV Model
CS-165

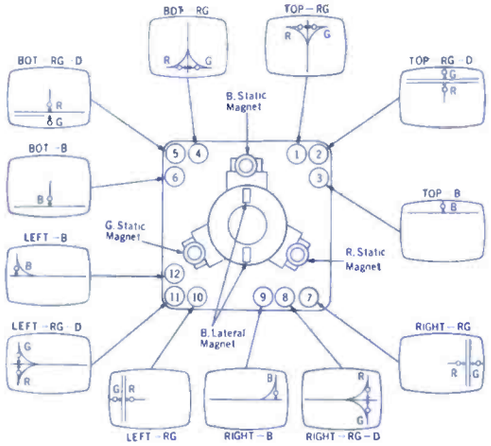
PANASONIC
TV Model AN-182

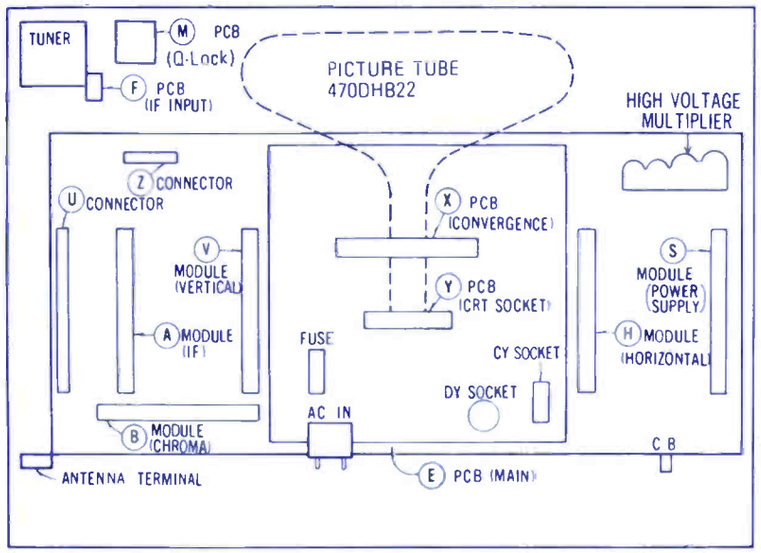


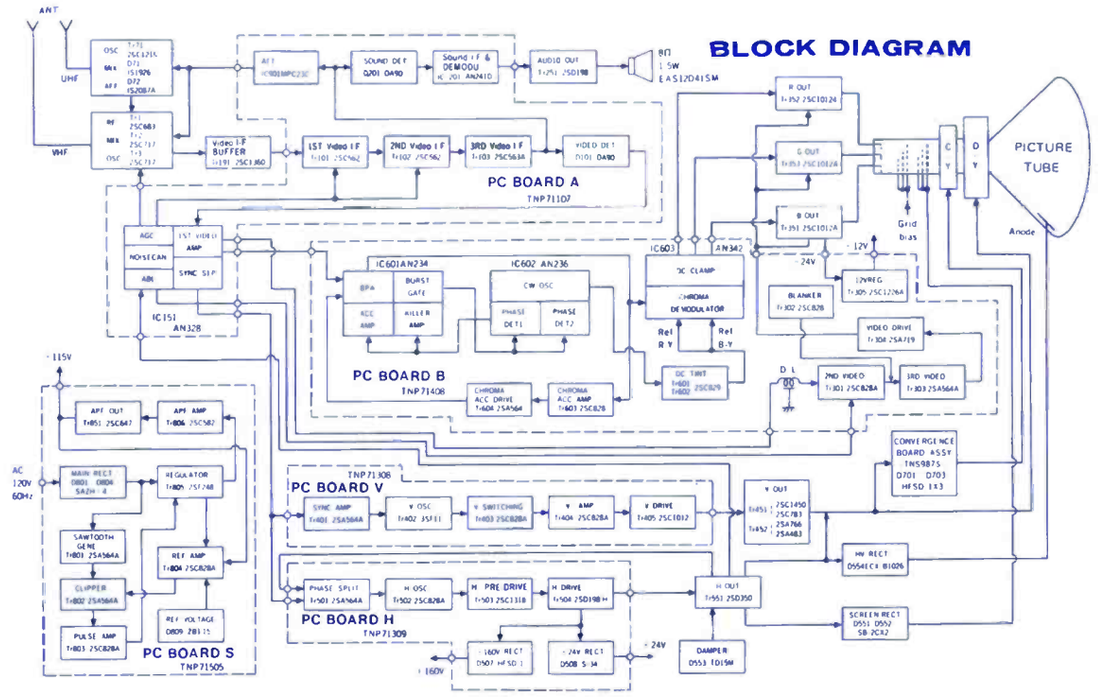


SYMBOL	DESCRIPTION	PANASONIC PART NO.
*–UHF tuner		TNK36903ME
	VHF tuner	TNR9611WY
Z501–capristor 470Ω 1MΩ 3MΩ		EXAG471G10
X501–fuse 2a		TSF35202
R301–AGC 50K +		EVT38A00B54
R354–vert hold 1.5MB.		EVD26AS20BC6
R356–vert lin 2MB		EVTV8A00MB26
R360–height 400KB		EVL32A00MB45
C503–elect 250 μf, 200 μf, 10 μf, 180v		ECET180HBX2Z
L401–horiz osc		TLH318
L501–filter coil		TLP412
T103–video detect xformer		TL1 5157
T301–vert out xformer.		TLV245-1
T401–HV xformer		TLF608SPS
Z102–2200pf, 82Ω		EXAP222AB20
Z103–5pfX2 10μh		TXC5FD01C
Z301–0.0047 μf, 470pf, 0.0047 μf. 470pf		EXA3WK11
Z302–3900pf, 1000pf 27Kx2		EXA4FD12
Z402–1000pfx2, 33K		EXA3SK01

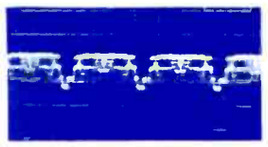
NOTES
- ○ CARBON RESISTOR
- □ RESIN RESISTOR
- ● METAL OXIDE FILM RESISTOR
- M POLYESTEL FILM CAPACITOR
- ◉ POLYPROPYLENE FILM CAPACITOR
- ▲ MICA CAPACITOR
- ● TEMPERATURE COMPENSATING CERAMIC CAPACITOR
- S STYROL CAPACITOR
- * This schematic diagram is the latest at the time of printing and subject to change without notice.

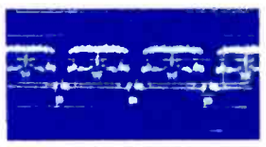


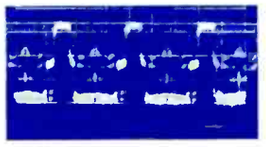


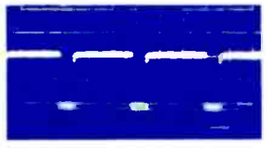


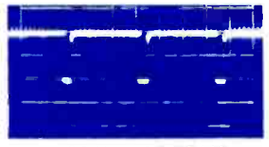
These waveforms were taken with the receiver AGC control adjusted for peak-to-peak output of 1.8 Volts at the test point of TP-A6. All monochrome voltages were taken with normal signal and all chroma voltages were taken with a color bar generator connected to antenna input terminals. Chroma peak-to-peak voltages were taken with the color control set for 1/3 turn (approximately) of its control range, tint control set for proper color bars (approximately) mid-range and all other controls set for normal viewing.

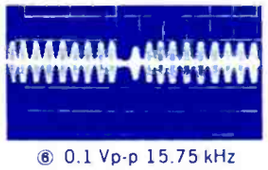

① 1.5 Vp-p 15.75 kHz

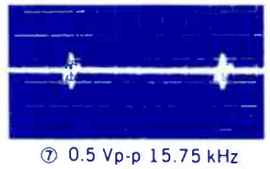

② 3 Vp-p 15.75 kHz

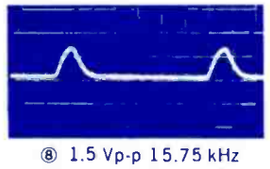

③ 5 Vp-p 15.75 kHz

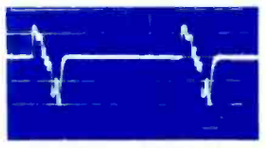

④ 10 Vp-p 15.75 kHz

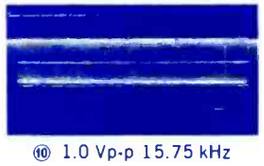

⑤ 20 Vp-p 15.75 kHz

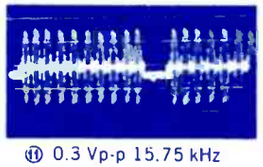

⑥ 0.1 Vp-p 15.75 kHz

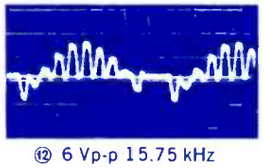

⑦ 0.5 Vp-p 15.75 kHz

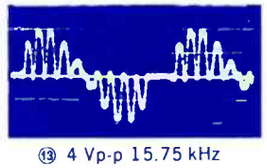

⑧ 1.5 Vp-p 15.75 kHz

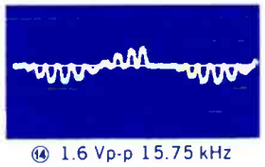

⑨ 3.5 Vp-p 15.75 kHz

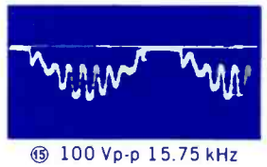

⑩ 1.0 Vp-p 15.75 kHz

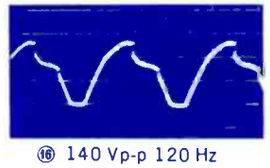

⑪ 0.3 Vp-p 15.75 kHz

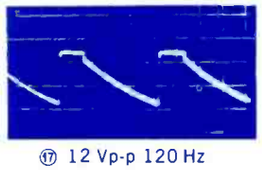

⑫ 6 Vp-p 15.75 kHz

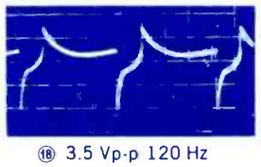

⑬ 4 Vp-p 15.75 kHz

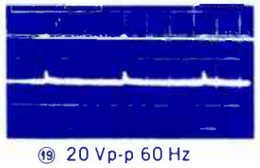

⑭ 1.6 Vp-p 15.75 kHz

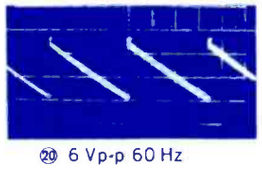

⑮ 100 Vp-p 15.75 kHz

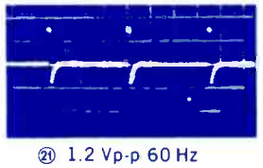

⑯ 140 Vp-p 120 Hz

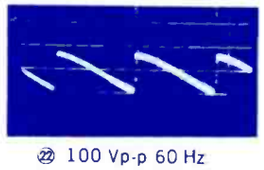

⑰ 12 Vp-p 120 Hz

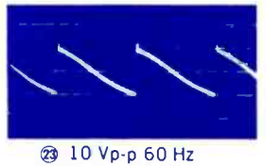

⑱ 3.5 Vp-p 120 Hz

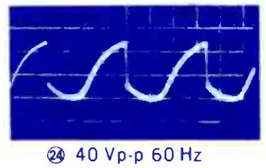

⑲ 20 Vp-p 60 Hz

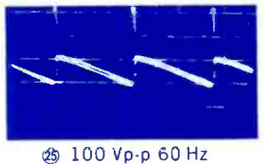

⑳ 6 Vp-p 60 Hz

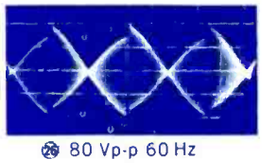

㉑ 1.2 Vp-p 60 Hz

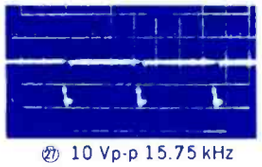

㉒ 100 Vp-p 60 Hz

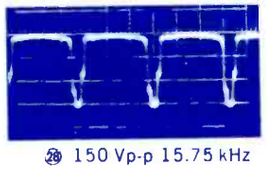

㉓ 10 Vp-p 60 Hz

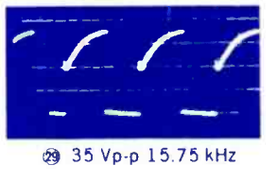

㉔ 40 Vp-p 60 Hz

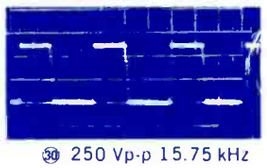

㉕ 100 Vp-p 60 Hz

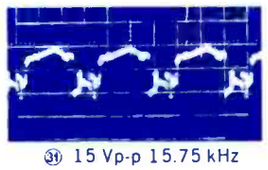

㉖ 80 Vp-p 60 Hz

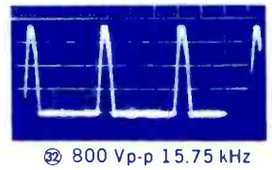

㉗ 10 Vp-p 15.75 kHz

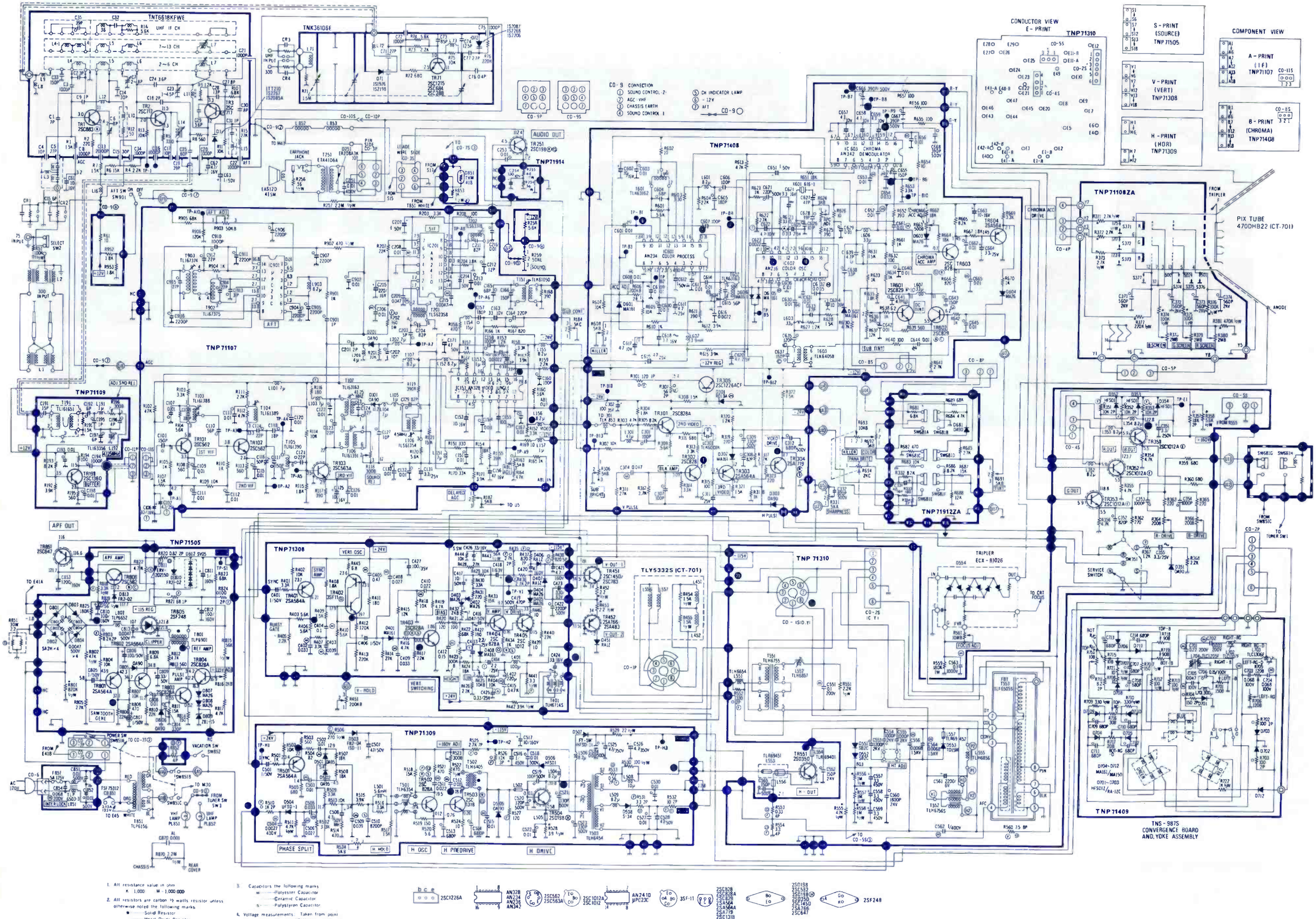

㉘ 150 Vp-p 15.75 kHz


㉙ 35 Vp-p 15.75 kHz


㉚ 250 Vp-p 15.75 kHz


㉛ 15 Vp-p 15.75 kHz

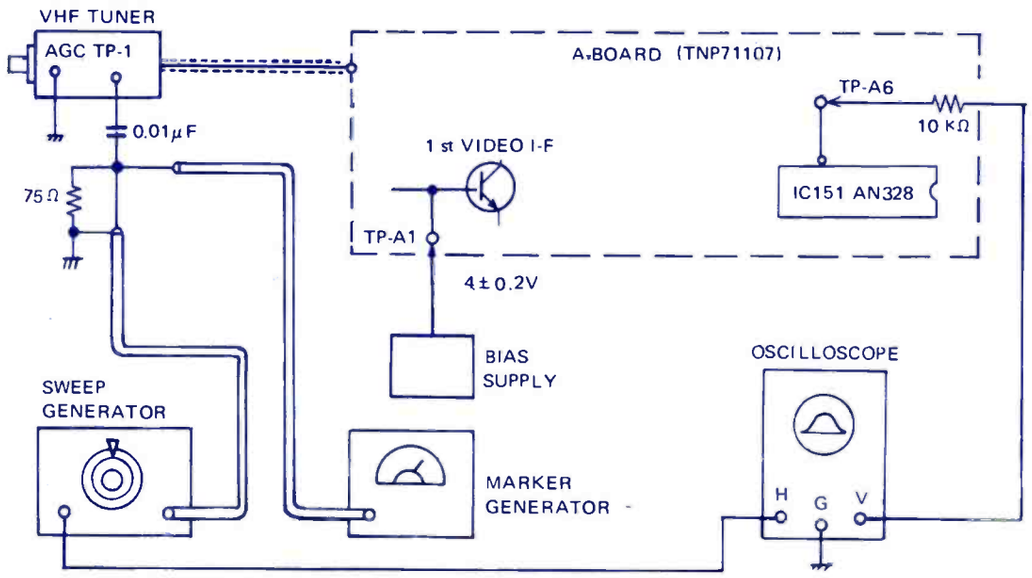

㉜ 800 Vp-p 15.75 kHz


TNP71107
TNP71109
TNP71505
TNP71308
TNP71309
TNP71408
TNP71914
TNP71310
TNP71912ZA
TNP71108ZA
TNP71409
TNK361086
TNT6618KFWE
TLY5332S (CT-701)
PIX TUBE
470DHB22 (CT-701)
TNS-987S
CONVERGENCE BOARD
AND YOKE ASSEMBLY
CONDUCTOR VIEW
E-PRINT
TNP71310
COMPONENT VIEW
S-PRINT (SOURCE) TNP71505
V-PRINT (VERT) TNP71308
H-PRINT (HOR) TNP71309
A-PRINT (I F) TNP71107
B-PRINT (CHROMA) TNP71408
CO-9 CONNECTION
1 SOUND CONTROL 2
2 AGC VHF
3 CHASSIS EARTH
4 SOUND CONTROL 1
5 CH INDICATOR LAMP
6 -12V
7 AFT
TRIPLER ECX-B1026
PHASE SPLIT
H OSC
H PREDRIVE
H DRIVE
V-HOLD
AUDIO OUT
APF OUT
VACUATION SW SW852
SERVICE SWITCH
FOCUS ADJ
EHT ADJ
SUB CONT
SUB BRIGHT
SUB TINT
SUB COLOR
SUB PANA BRITE
SUB SHARPNESS
1. All resistance value in ohm
K 1,000 M 1,000,000
2. All resistors are carbon ½ watts resistor unless otherwise noted the following marks
Solid Resistor
Metal Oxide Resistor
Wire Wound Resistor
Non Flame Resistor
3. Capacitors the following marks
Polyester Capacitor
Ceramic Capacitor
Polystyren Capacitor
4. Voltage measurements. Taken from point indicated to chassis a VTVM when receiving color bar signal.
2SC1226A
AN328 AN234 AN236 AN342
2SC562 2SC563A
2SC1012A 2SC1012
AN2410 μPC23C
3SF-11
2SC828 2SC828A 2SC829 2SA564 2SA564A 2SA719 2SC1318 2SC1360
2SD198 2SC582 2SD198(H) 2SD250 2SC1450 2SA766 2SC647
2SF248

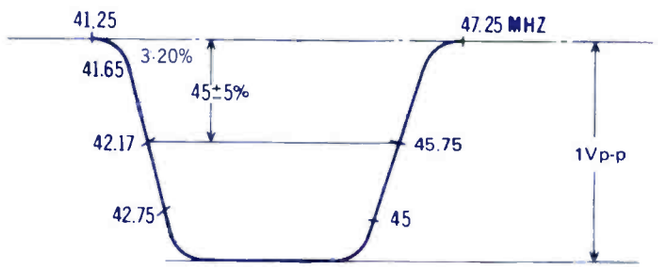
SWEEP ALIGNMENT OF VIDEO I-F

PREPARATION STEP

1. Set channel selector to an unused channel.
2. Connect oscilloscope, sweep and marker generator as shown in figure 28.
3. Supply bias voltage 4±0.2 V between TPA1 (Positive side) and ground on A-Board (See figure 28 and 63).
4. Connect the TV power source to outlet and set the power switch to "ON" position.
5. Adjust sweep generator's output level by attenuator to get the appropriate waveform, about 1 Vp-p, 16 cm, on oscilloscope.



(Fig. 28)



(Fig. 29)

ALIGNMENT PROCEDURE

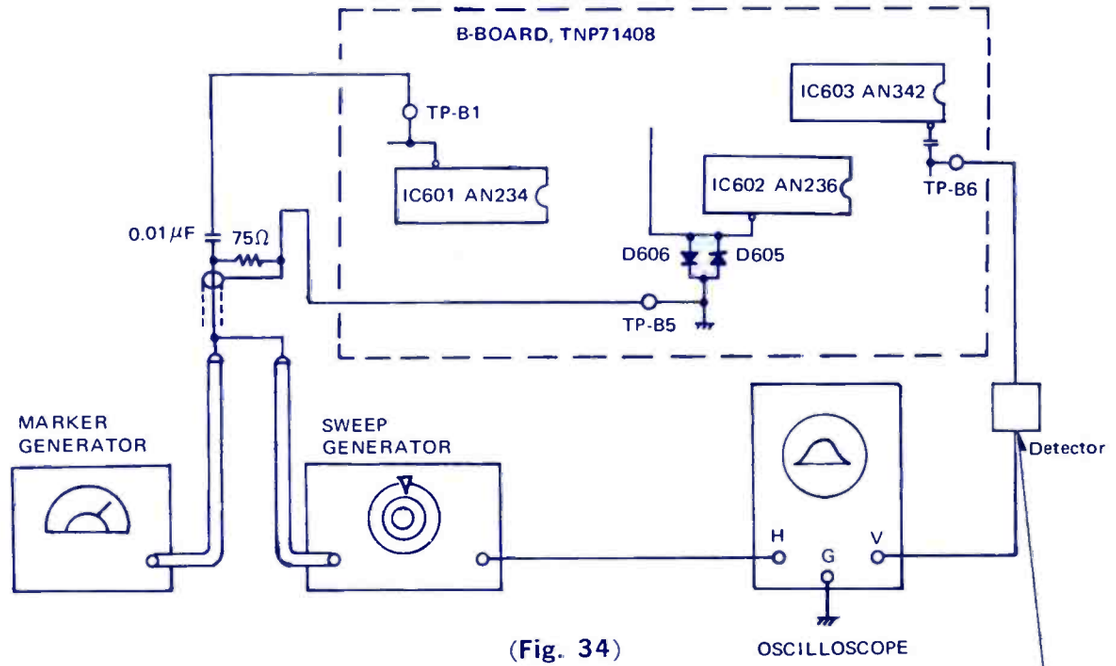
1. Adjustment of T103, T104 and T105 (See figure 63).
2. Adjustment of T191 on A-Board (TNP71107).
   The three cores in T191 can change the maximum gain and incline of waveform. Normally, T191 does not need realigen, if it not replaced.
3. Adjustment of traps.
   T106 is trap for 41.25 MHz and L192 is for 47.25 MHz.

PANASONIC
Color-TV Chassis
ETA-1

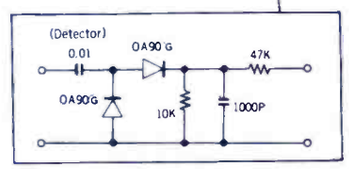
CHROMA BAND-PASS ALIGNMENT

PREPARATION STEP

1. Set channel selector to an unused channel.
2. Set Q-Locke switch to OFF position.
3. Set KILLER control (R608) in B-Board fully conter clockewis (See figure 61).
4. Set PANA-BRIGHT control fully clockwise.
5. Set COLOR control fully clockwise.
6. Connect jumper between TPB2 and TPB3 (See figure 61).
7. Supply bias voltage 4±0.2 V between TPA1 (Positive) and ground (See figure 63).
8. Connect oscilloscope at TPB6, detector, sweep and marker generator at TPB1 as shown in figure 34.
9. Connect the TV power source to outlet and set power switch to "ON" position.



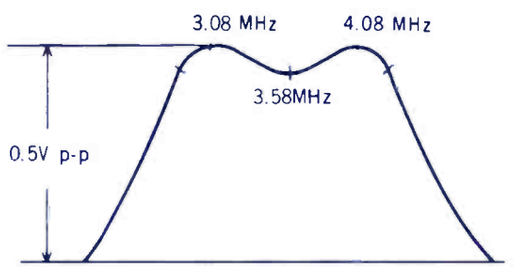
(Fig. 34)

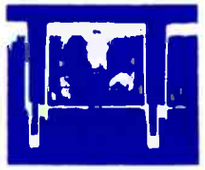


(Fig. 35)

ALIGNMENT PROCEDURE

1. Adjust T601 and T602 on B-Board (See figure 61) for response as shown in figure 36. 3.08 MHz and 4.08 MHz markers are almost equal and maximum gain.
2. Observe that the waveform disappears, when control is in clockwise position. Turn the color killer control (R608) clockwise, then return it to its original position.





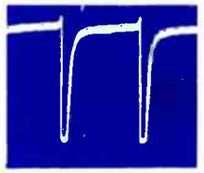
① 4.5 Volts p/p
15,750 Hz



② 4.5 Volts p/p
60 Hz



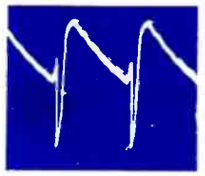
③ 70 Volts p/p
60 Hz



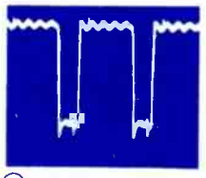
④ 9.5 Volts p/p
15,750 Hz



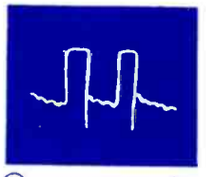
⑤ 9.5 Volts p/p
60 Hz



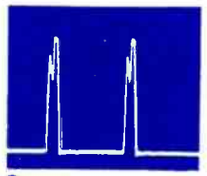
⑥ 5.8 Volts p/p
15,750 Hz



⑦ 0.9 Volts p/p
15,750 Hz



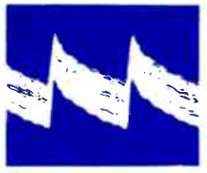
⑧ 21 Volts p/p
15,750 Hz



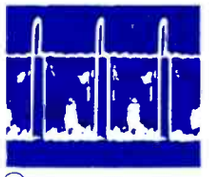
⑨ 105 Volts p/p
15,750 Hz



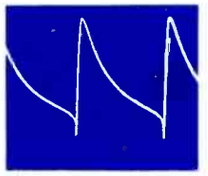
⑩ 32 Volts p/p
15,750 Hz



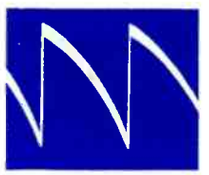
⑪ 0.6 Volts p/p
15,750 Hz



⑫ 4.5 Volts p/p
15,750 Hz



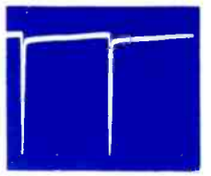
⑬ 4.4 Volts p/p
60 Hz



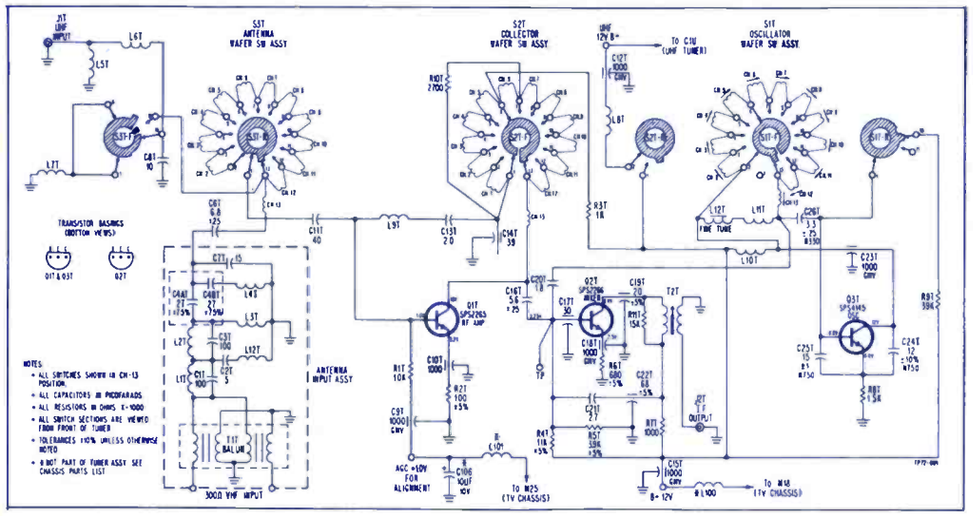
⑭ 3.8 Volts p/p
60 Hz



⑮ 3.6 Volts p/p
60 Hz



⑯ 112 Volts p/p
60 Hz



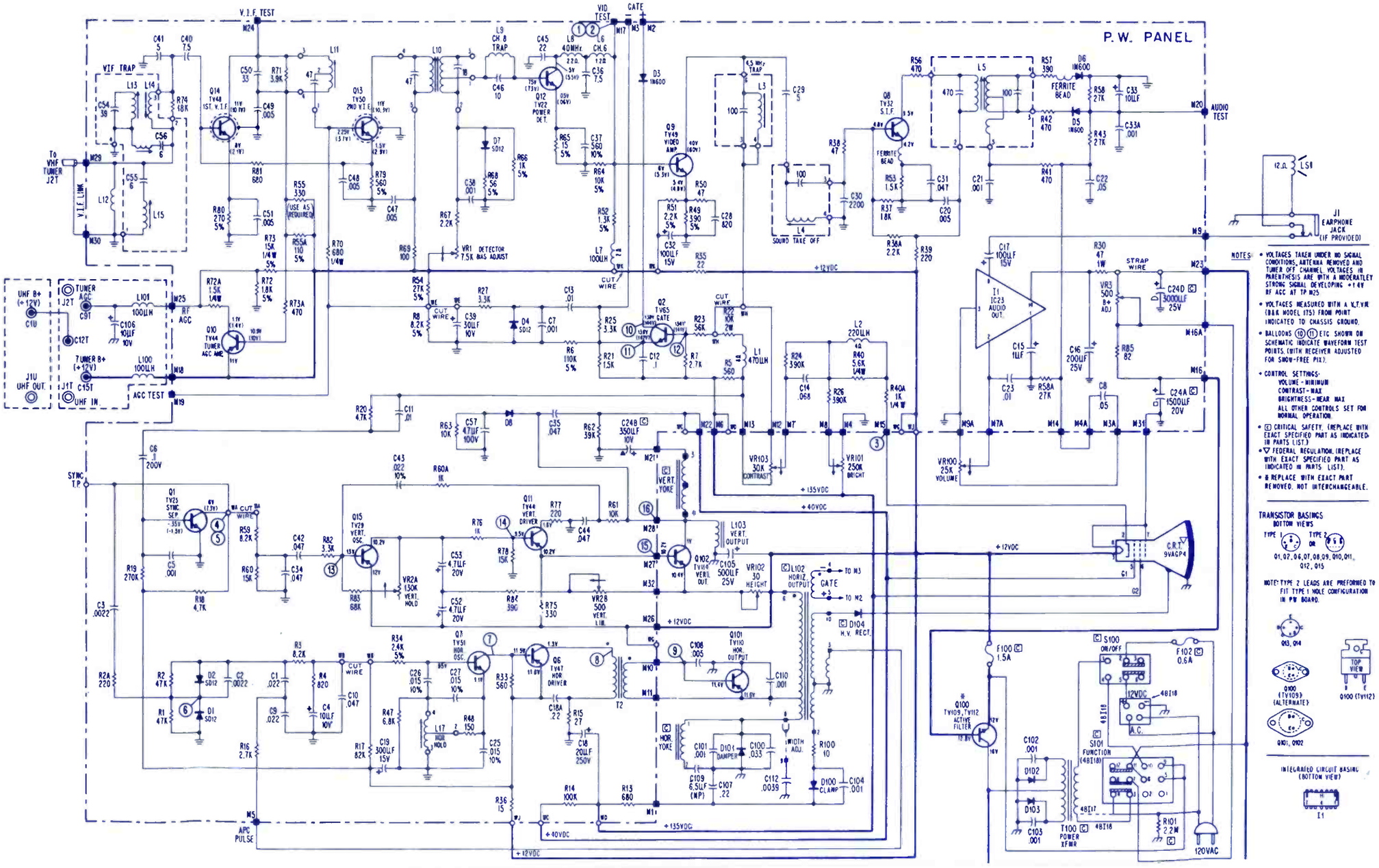
SCHEMATIC DIAGRAM—VHF TUNER

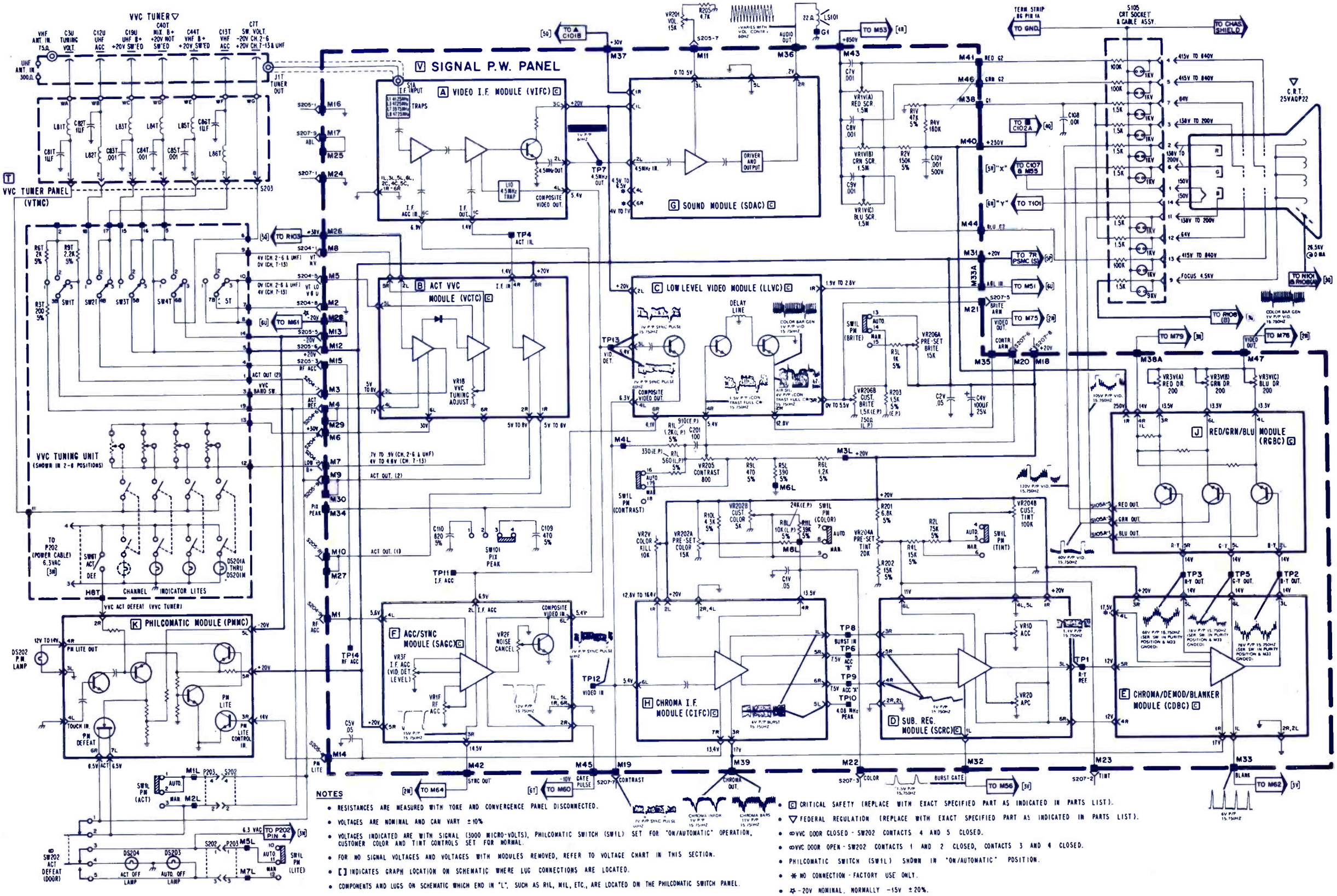
	NO SIG.			WITH SIG.*		
	E	B	C	E	B	C
Q1	0	−.35V	6V	0	−1.5V	7.3V
Q2	136V	134V	139V	142V	141V	144V
Q6	11.8V	11.5V	1.3V			
Q7	1.1V	95V	11.5V			
Q8	4.2V	4.8V	9.2V			
Q9	5.4V	6V	40V	4.8V	5.3V	60V
Q10	11V	10.9V	1.1V	11V	10V	1.4V
Q11	10.2V	9.5V	1.6V			
Q12	05V	73V	5.5V	06V	72V	5V
Q13	1.5V	2.25V	11V	2.9V	3.7V	10.3V
Q14	.8V	1.5V	11V	2.1V	2.8V	10.1V
Q15	12V	13V	10.2V			
Q100	12V	12.8V	16V			
Q101	11.6V	11.6V	0			
Q102	10.4V	10.2V	1V			

TRANSISTORS

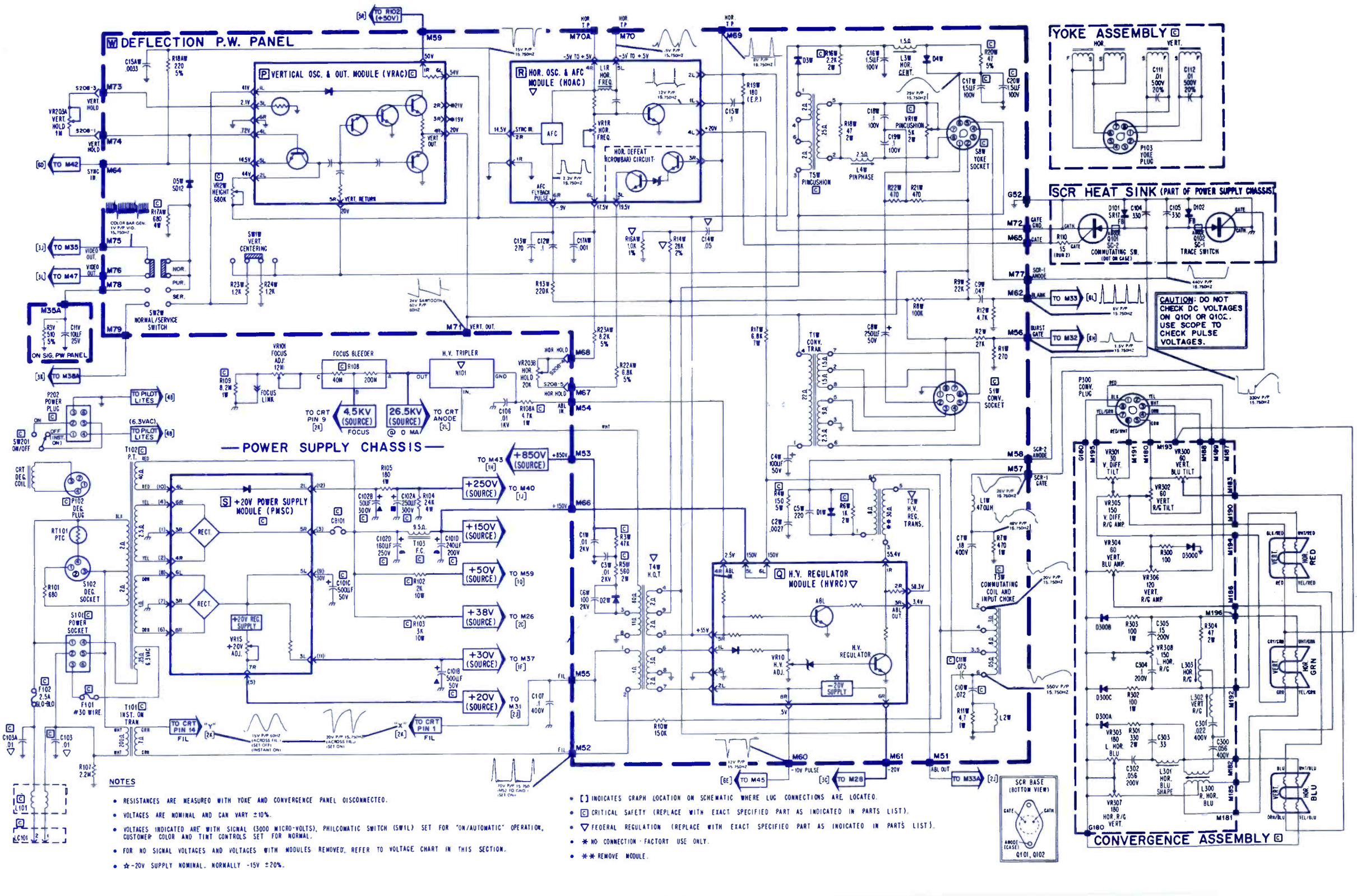
*WITH MODERATELY STRONG SIGNAL. CONTROLS SET FOR NORMAL PICTURE. +1.4V RF AGC BEING DEVELOPED AT TP M25. (ONLY SHOWN WHERE DIFFERENT THAN NO SIGNAL CONDITION.)

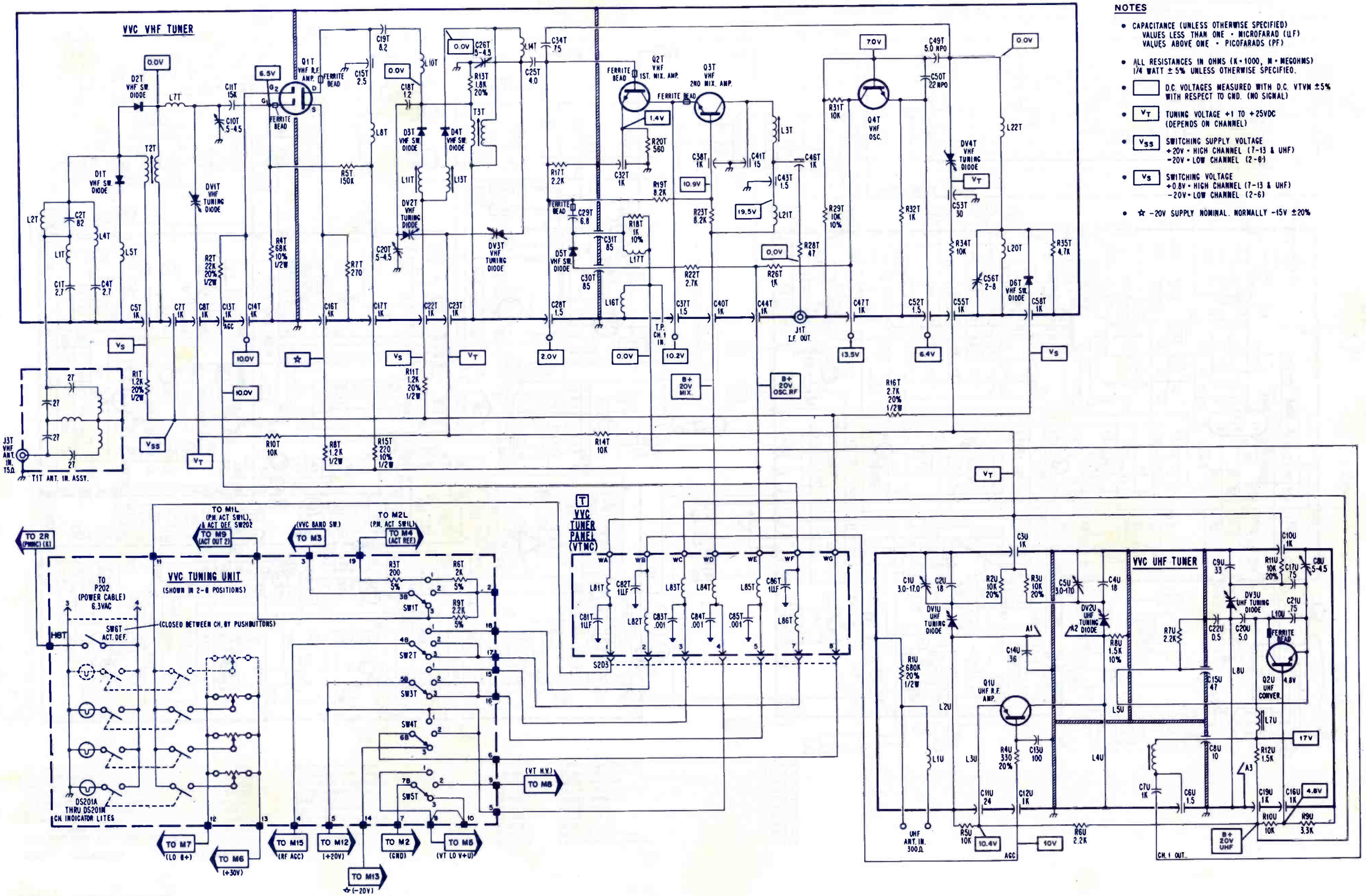
SYMBOL	DESCRIPTION	PHILCO-FORD PART NO.
C24A	—3000μf/25v/1500μf	
B, C	—20v, 350μf/10v power supply	30-2585-33
F100	—1.5a, fast blow, B+	45-2656-72
F102	—.6a	
L4	—sound take-off coil	32-4901-1
L5	—ratio det coil	32-4906-1
L13	—41.25 MHz trap coil	32-4652-80
L17	—horiz osc coil	32-4938-2
L102	—horiz output xformer	32-10202-1
S100	—on-off, ac (slide)	42-2186-7
T100	—power xformer	32-10159-2
VR3	—500Ω B+ adjust	33-5650-6
VR100	—25K, vol control	33-5658-2
VR101	—250K, brightness control	33-5658-1
VR102	—30Ω height control	33-5620-9
VR	—30K, contrast control	33-5624-14
	fuse, 3a, fast blow	45-2069-18
	tuner, VHF (TT185)	76-14324-1
	yoke	32-10201-1





PHILCO-FORD
Color-TV Chassis
3CY91


DEFLECTION P.W. PANEL
VERTICAL OSC. & OUT. MODULE (VRAC)
HOR. OSC. & AFC MODULE (HOAC)
HOR. DEFEAT (CROWBAR) CIRCUIT
YOKE ASSEMBLY
SCR HEAT SINK (PART OF POWER SUPPLY CHASSIS)
COMMUTATING SW.
TRACE SWITCH
CAUTION: DO NOT CHECK DC VOLTAGES ON Q101 OR Q102. USE SCOPE TO CHECK PULSE VOLTAGES.
SCR BASE (BOTTOM VIEW)
POWER SUPPLY CHASSIS
+20V POWER SUPPLY MODULE (PMSC)
H.V. REGULATOR MODULE (HVRC)
+850V (SOURCE)
+250V (SOURCE)
+150V (SOURCE)
+50V (SOURCE)
+38V (SOURCE)
+30V (SOURCE)
+20V (SOURCE)
4.5KV (SOURCE) FOCUS
26.5KV (SOURCE) @ 0 MA
CONVERGENCE ASSEMBLY
NOTES
• RESISTANCES ARE MEASUREO WITH YOKE AND CONVERGENCE PANEL OISCONNECTEO.
• 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.
• ☆-20V SUPPLY NOMINAL. NORMALLY -15V ±20%.
• [ ] INOICATES GRAPH LOCATION ON SCHEMATIC WHERE LUG CONNECTIONS ARE LOCATEO.
• Ⓒ CRITICAL SAFETY (REPLACE WITH EXACT SPECIFIED PART AS INDICATED IN PARTS LIST).
• ▽ FEOERAL REGULATION (REPLACE WITH EXACT SPECIFIEO PART AS INOICATEO IN PARTS LIST).
• * NO CONNECTION - FACTORY USE ONLY.
• ** REMOVE MODULE.

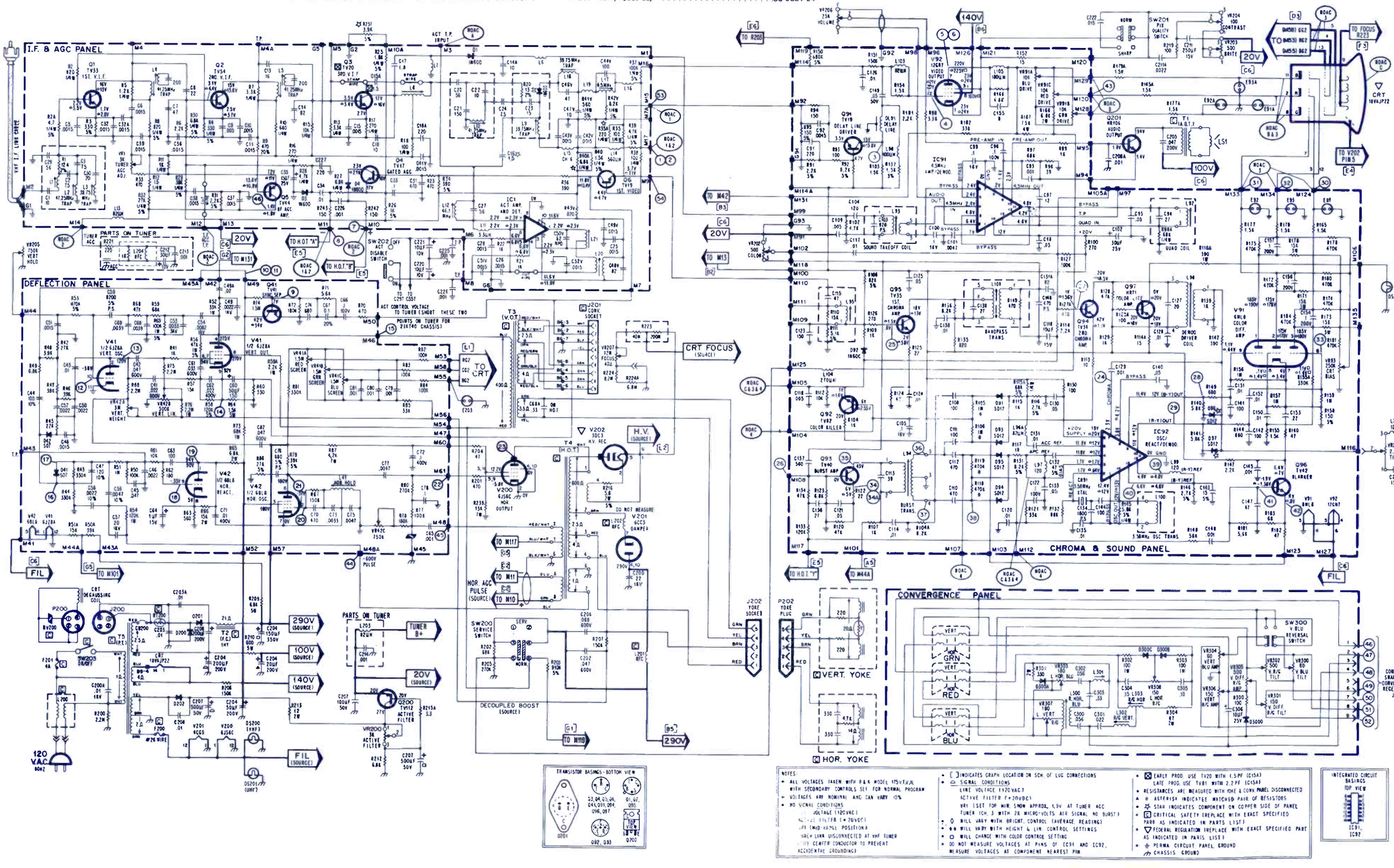


NOTES

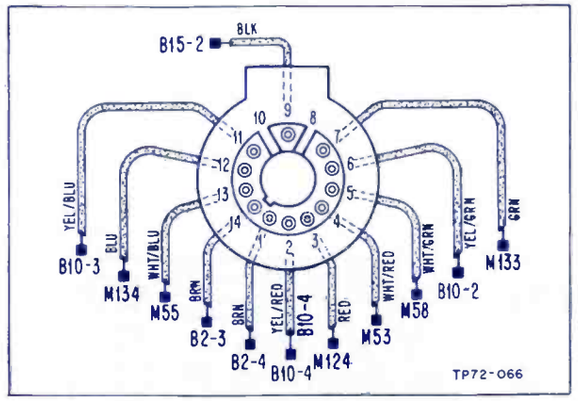
- CAPACITANCE (UNLESS OTHERWISE SPECIFIED) VALUES LESS THAN ONE = MICROFARAD (LF) VALUES ABOVE ONE = PICOFARADS (PF)
- ALL RESISTANCES IN OHMS (K=1000, M=MEGOHMS) 1/4 WATT ± 5% UNLESS OTHERWISE SPECIFIED.
- ☐ D.C. VOLTAGES MEASURED WITH D.C. VTVM ±5% WITH RESPECT TO GND. (NO SIGNAL)
- V_T TUNING VOLTAGE +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
Color-TV Chassis
3CY91

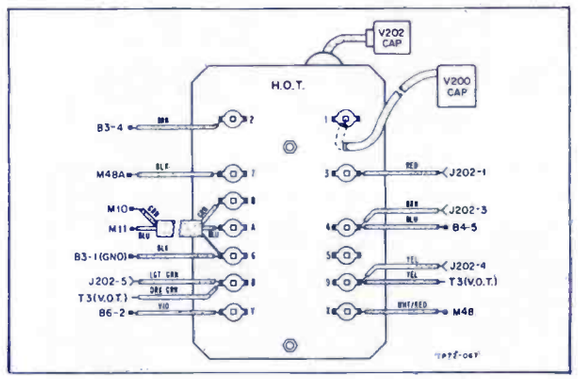
SYMBOL	DESCRIPTION	PHILCO-FORD PART NO.
C204	200 μ f/200v, 150 μ f/350v, 20 μ f/200v 50 μ f/200v, B+ filter	30-2625-3
IC1	act amp. & det. (3CR41)	46-5002-6
IC91–IC8	4.5MHz amp./demod.	46-5002-8
IC92–IC21	color osc/react/demod	46-5002-21
L41	horiz hold	32-4891-2
L-92	quad	32-4876-1
L93	sound take-off	32-4936-3
L94	burst trans	32-4931-1
L-95	chroma take-off	32-4878-3
L100	3.58MHz osc	32-4932-2
L101	chroma bandpass	32-4929-1
R224	6.8M, focus control	33-1385-1
RT200	degaussing	33-1376-6
RV55	horiz bias	33-1379-2
RV200	degaussing coil	33-1379-1
T1	xformer, audio output	32-10156-1
T2	xformer, filter choke	32-10155-3
T3	vert output, xformer	32-10167-1
T4	xformer, horiz output	32-10111-7
VR1	3K AGC adjust	33-5628-14
VR93	CRT bias	33-5628-12
VR201	tint	33-5649-25
VR202	color	33-5648-14
VR203	brightness	33-5631-18
VR204	contrast	33-5631-19
VR205	vert hold	33-5631-16
VR206	on-off/volume	33-5646-14
VR207	12M, focus adj	33-5631-24



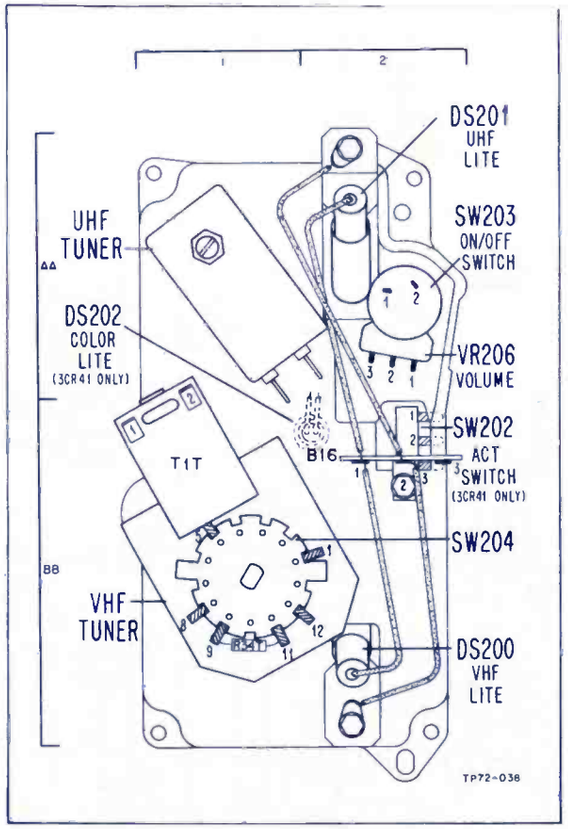
NOTES:
- ALL VOLTAGES TAKEN WITH B & K MODEL 475 V.T.V.M. WITH SECONDARY CONTROLS SET FOR NORMAL PROGRAM
- VOLTAGES ARE NOMINAL AND CAN VARY 10%
- NO SIGNAL CONDITIONS
  - VOLTAGE (120VAC)
  - ACTIVE FILTER (+20VDC)
  - VR1 (MID-RANGE POSITION)
  - VHF/UHF LINK DISCONNECTED AT VHF TUNER
  - CENTER CONDUCTOR TO PREVENT ACCIDENTAL GROUNDING)
- [ ] INDICATES GRAPH LOCATION ON SCH. OF LUG CONNECTIONS
- ⊖ SIGNAL CONDITIONS
  - LINE VOLTAGE (120 VAC)
  - ACTIVE FILTER (+20VDC)
  - VR1 (SET FOR MIN. SNOW APPROX. 1.9V AT TUNER AGC
  - TUNER (CH. 3 WITH 2# MICRO-VOLTS AIR SIGNAL NO BURST)
- ◊ WILL VARY WITH BRIGHT. CONTROL (AVERAGE READING)
- ◊◊ WILL VARY WITH HEIGHT & LIN. CONTROL SETTINGS
- ○ WILL CHANGE WITH COLOR CONTROL SETTING
- DO NOT MEASURE VOLTAGES AT PINS OF IC91 AND IC92. MEASURE VOLTAGES AT COMPONENT NEAREST PIN
- ⊠ EARLY PROD. USE TV20 WITH 1.5PF (C15A) LATE PROD. USE TV81 WITH 2.2PF (C15A)
- RESISTANCES ARE MEASURED WITH YOKE & CONV. PANEL DISCONNECTED
- ▲ ● ASTERISK INDICATES MATCHED PAIR OF RESISTORS
- ✲ STAR INDICATES COMPONENT ON COPPER SIDE OF 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)
- ⏚ PERMA CIRCUIT PANEL GROUND
- CHASSIS GROUND



CRT SOCKET WIRING, 3CR40/41



H.O.T. WIRING, 3CR40/41



REAR VIEW INSTRUMENT PANEL, 3CR40/41

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	94
11 B-K	272
12 B-G1	92
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

6ML8

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

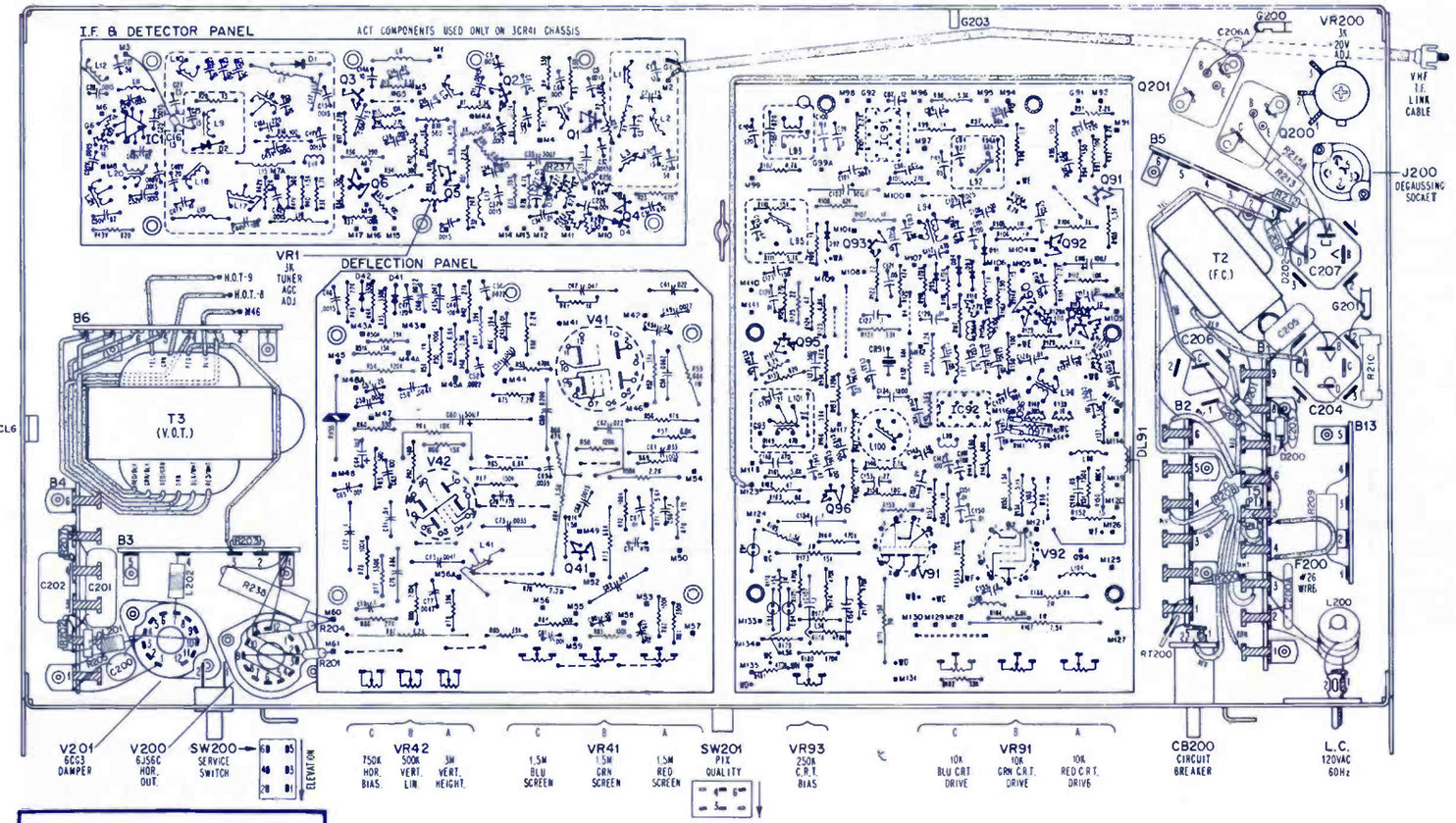
MEASURED BETWEEN PINS AS INDICATED

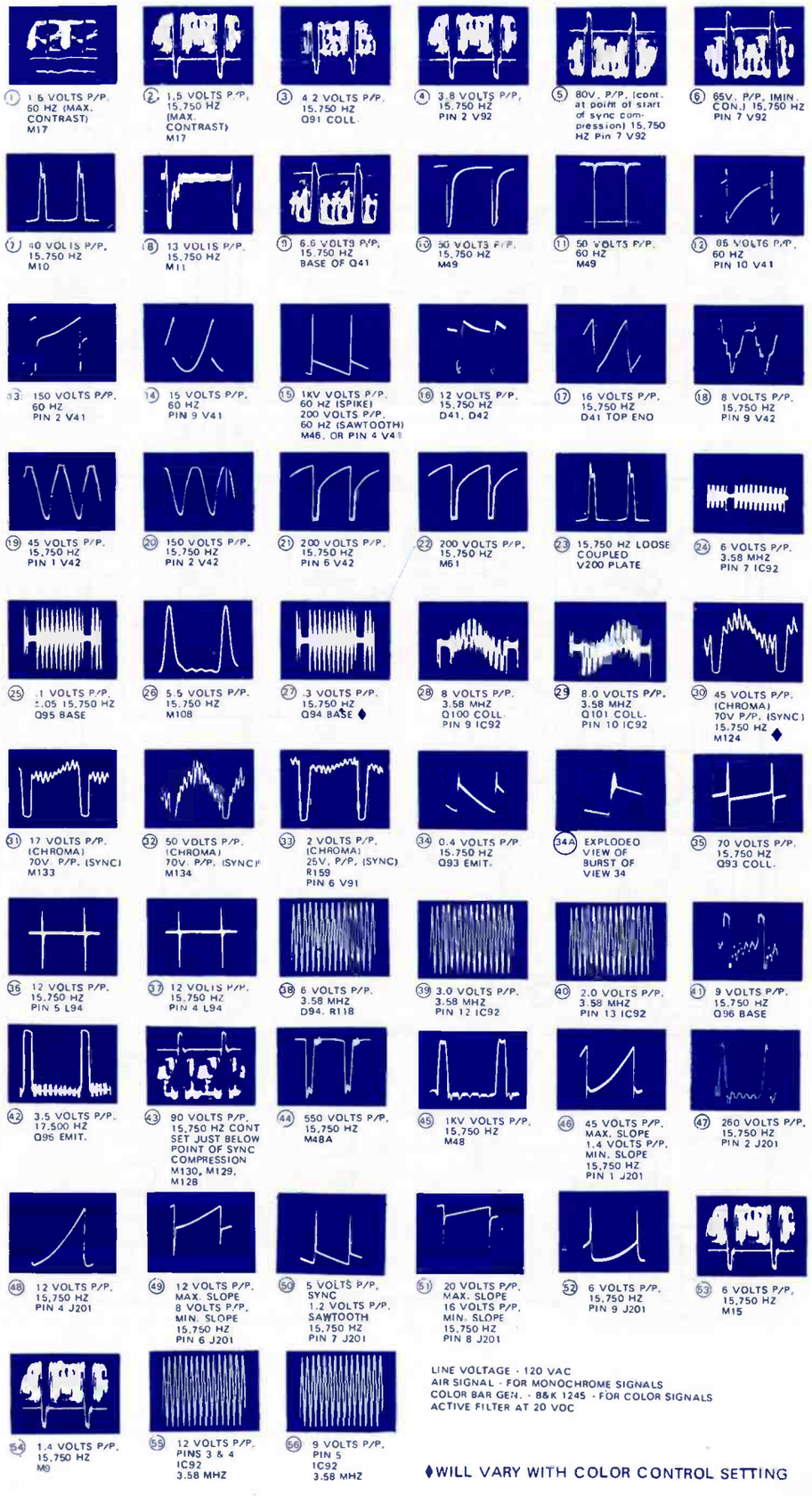
12GN7

V92

PIN	VOLTAGE
1	26
2	23
7	270
8	165

BOTTOM VIEW WITH PW PANELS-3CR40/41 CHASSIS



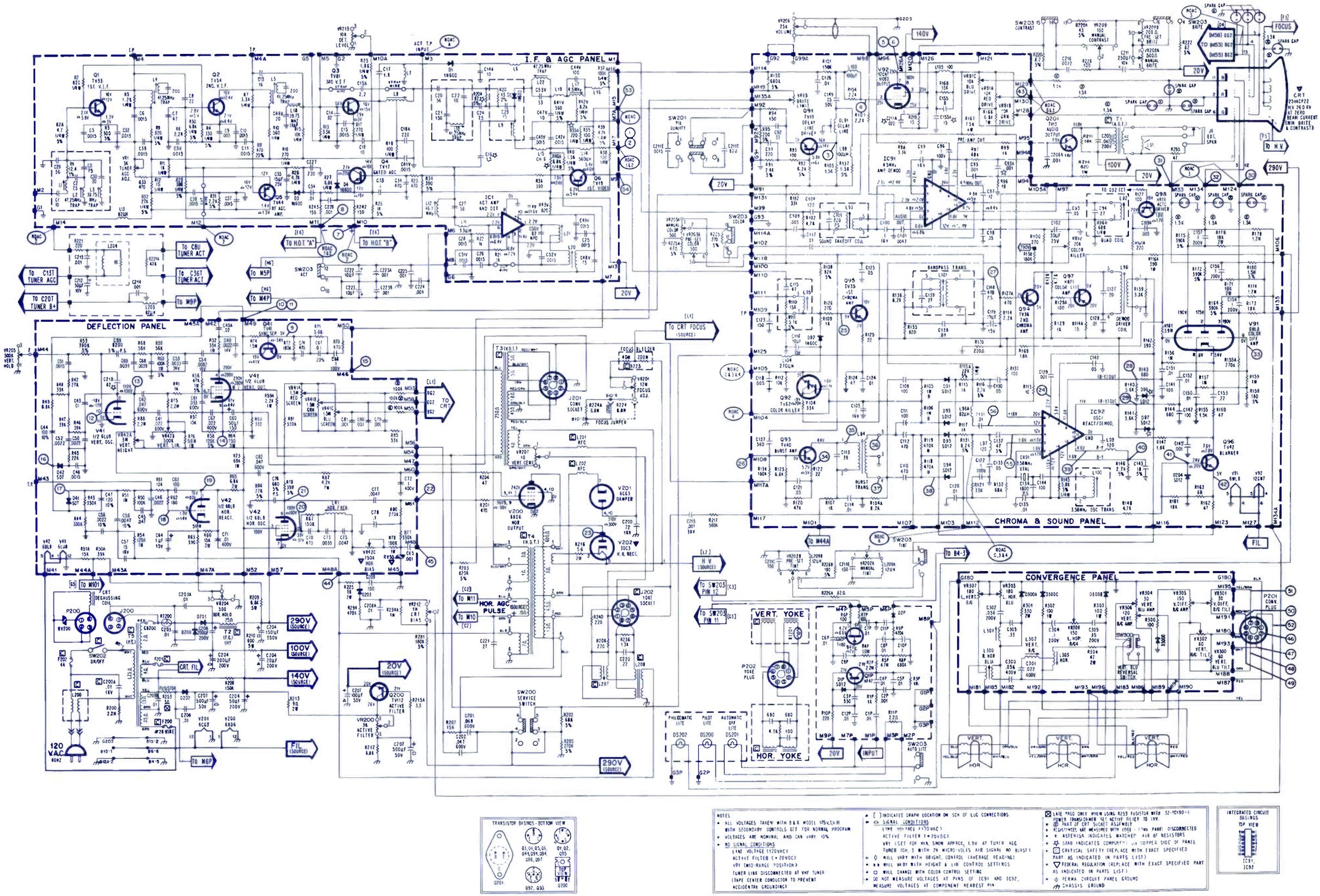


LINE VOLTAGE - 120 VAC
AIR SIGNAL - FOR MONOCHROME SIGNALS
COLOR BAR GEN. - B&K 1245 - FOR COLOR SIGNALS
ACTIVE FILTER AT 20 VOC

♦WILL VARY WITH COLOR CONTROL SETTING

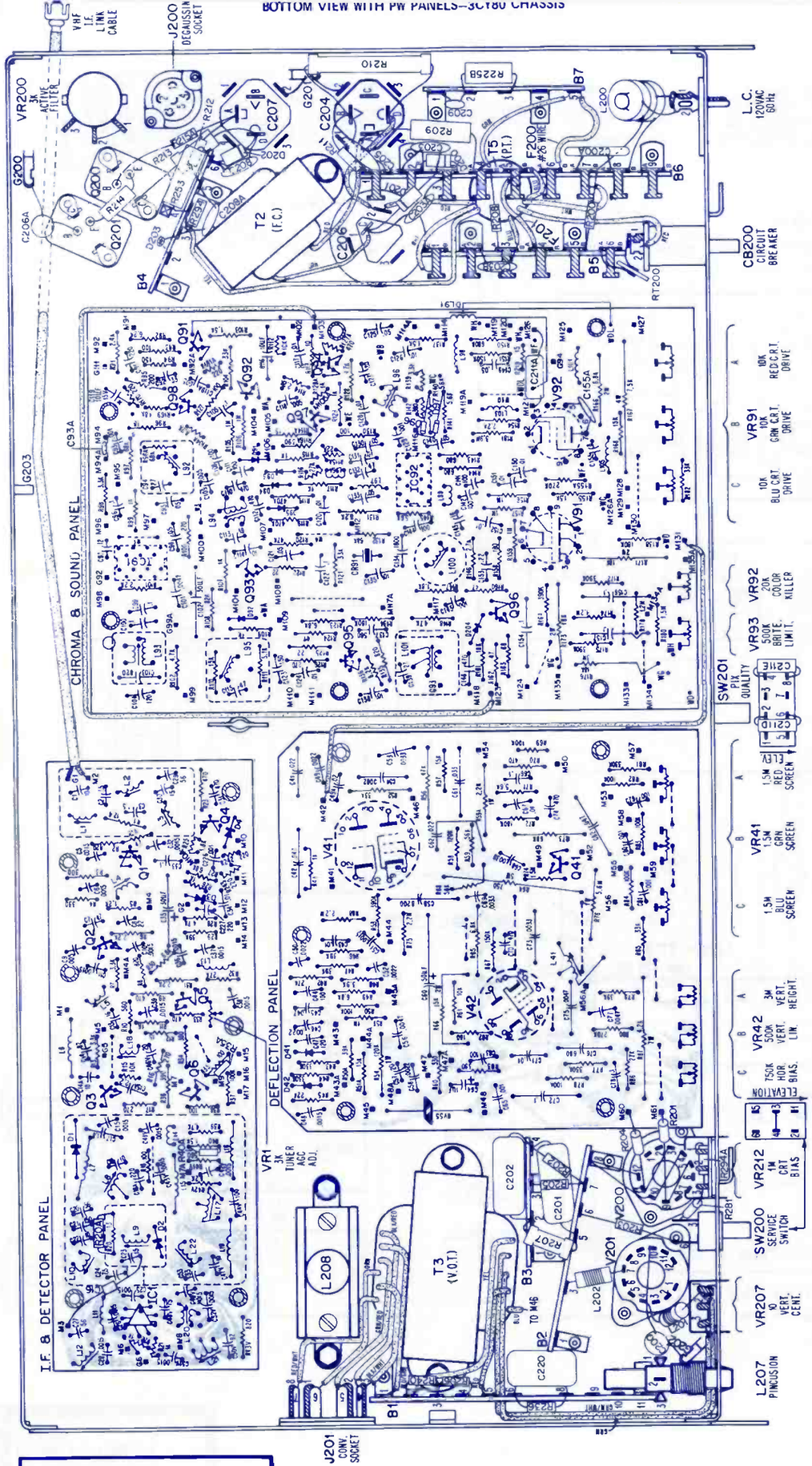
PHILCO-FORD
Color-TV
Chassis 3CR40/41

PHILCO-FORD
Color-TV Chassis
3CY80



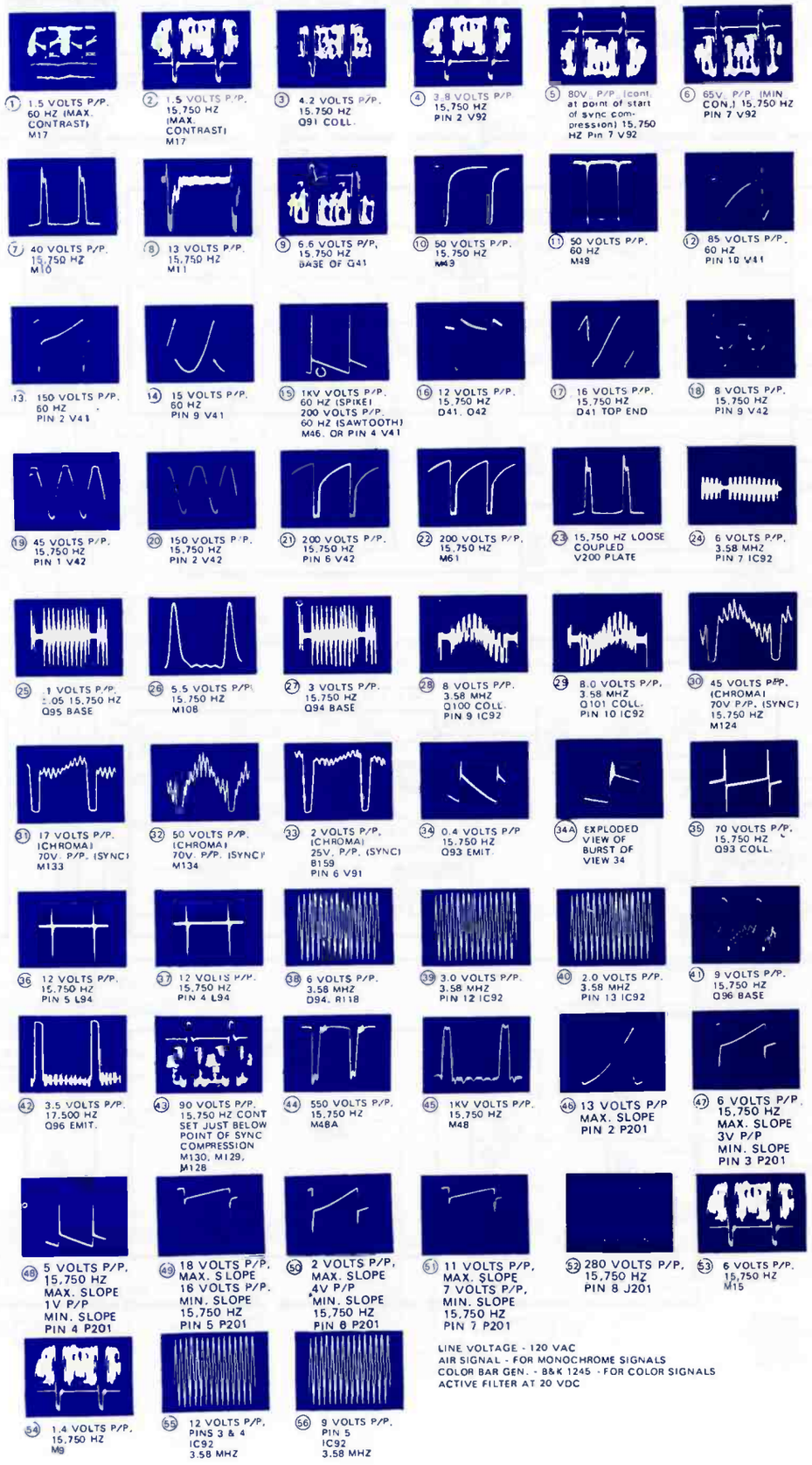
NOTES
- ALL VOLTAGES TAKEN WITH B&K MODEL 175 V.T.V.M. WITH SECONDARY CONTROLS SET FOR NORMAL PROGRAM
- VOLTAGES ARE NOMINAL AND CAN VARY 10%
- NO SIGNAL CONDITIONS
  - LINE VOLTAGE (120VAC)
  - ACTIVE FILTER (+20VDC)
  - VRI (MID-RANGE POSITION)
  - TUNER LINK DISCONNECTED AT VHF TUNER (TAPE CENTER CONDUCTOR TO PREVENT ACCIDENTAL GROUNDING)
- [ ] INDICATES GRAPH LOCATION ON SCH. OF LUG CONNECTIONS
- SIGNAL CONDITIONS
  - LINE VOLTAGE (120VAC)
  - ACTIVE FILTER (+20VDC)
  - VRI (SET FOR MIN. SNOW APPROX. 1.3V AT TUNER AGC TUNER (CH. 3 WITH 2M MICRO-VOLTS AIR SIGNAL NO BURST)
- ◇ WILL VARY WITH BRIGHT. CONTROL (AVERAGE READING)
- ◇◇ WILL VARY WITH HEIGHT & LIN CONTROL SETTINGS
- □ WILL CHANGE WITH COLOR CONTROL SETTING
- DO NOT MEASURE VOLTAGES AT PINS OF IC91 AND IC92. MEASURE VOLTAGES AT COMPONENT NEAREST PIN
- ⊠ LATE PROD ONLY WHEN USING R253 FUSISTOR WITH 32-10190-1 POWER TRANSFORMER SET ACTIVE FILTER TO 19V.
- ⊛ PART OF CRT SOCKET ASSEMBLY
- RESISTANCES ARE MEASURED WITH YOKE & CRT NECK PANEL DISCONNECTED
- * ASTERISK INDICATES COMPONENTS MATCHED AIR OF RESISTORS
- ☆ STAR INDICATES COMPONENTS ON COPPER SIDE OF PANEL
- □ CRITICAL SAFETY (REPLACE WITH EXACT SPECIFIED PART AS INDICATED IN PARTS LIST)
- ▽ FEDERAL REGULATION (REPLACE WITH EXACT SPECIFIED PART AS INDICATED IN PARTS LIST)
- ⏚ PERMA CIRCUIT PANEL GROUND
- CHASSIS GROUND

BOTTOM VIEW WITH PW PANELS–3CY80 CHASSIS



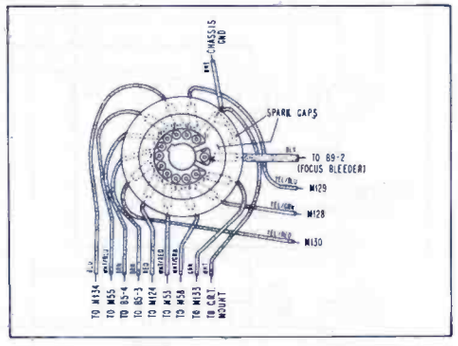
PHILCO-FORD
Color-TV Chassis
3CY80

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.

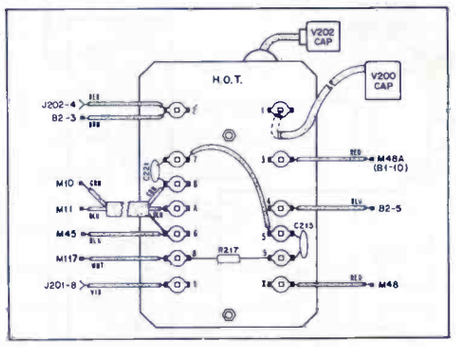


LINE VOLTAGE - 120 VAC
AIR SIGNAL - FOR MONOCHROME SIGNALS
COLOR BAR GEN. - B&K 1245 - FOR COLOR SIGNALS
ACTIVE FILTER AT 20 VDC

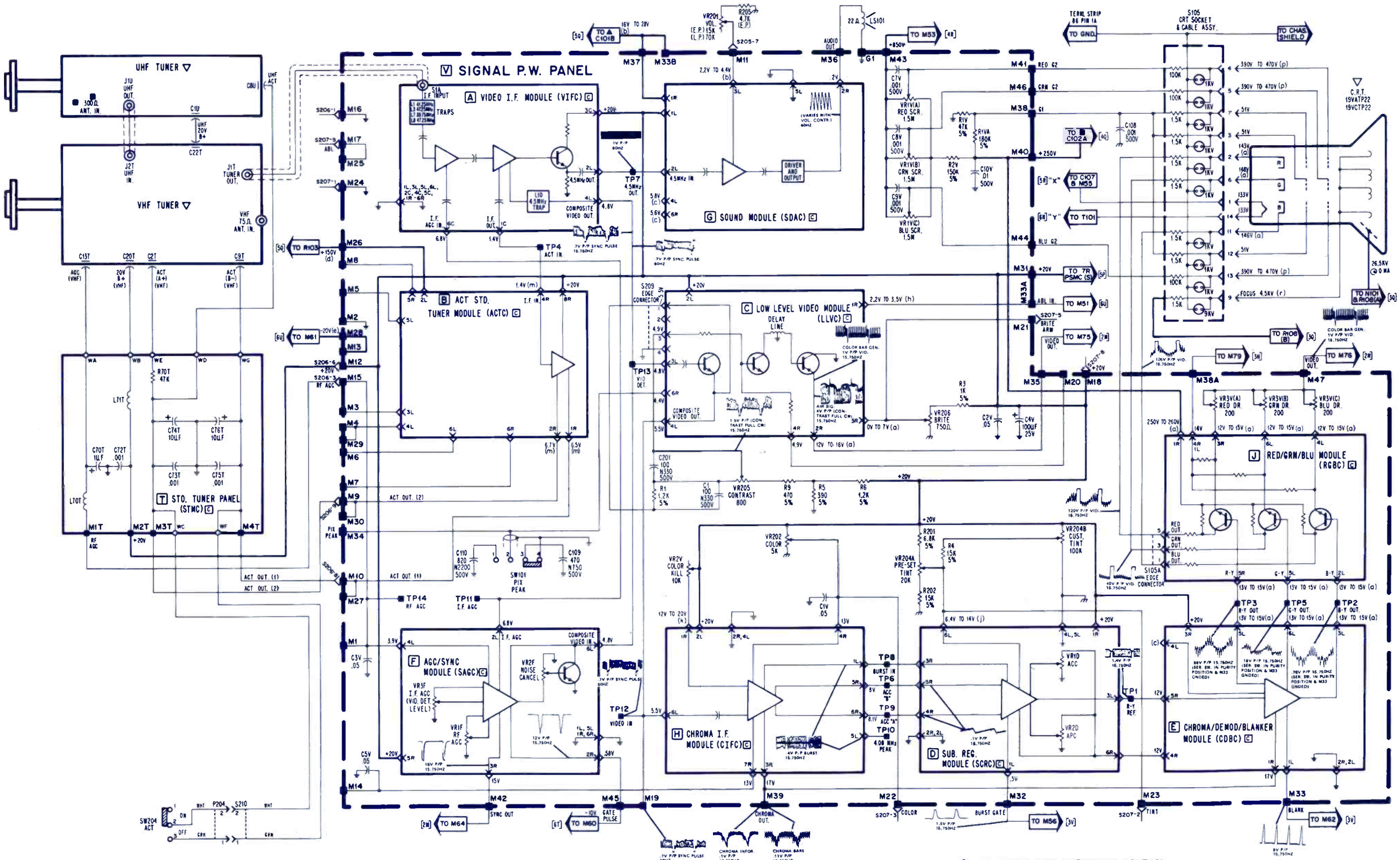
SYMBOL	DESCRIPTION	PHILCO-FORD PART NO.
C204A thru D	200μ f/200v, 150μ f, 350v, 20μ f/200v 50μ f/200v, B+ filter	30-2616-11
CB200	power ac circuit breaker	42-2136-10
IC91	IC-8, aud/IF/det	46-5002-8
IC92	IC-21 osc/react/det	46-5002-21
L17	4.5MHz trap	32-4869-3
L41	Horiz hold	32-4891-2
L92	sound quad	32-4876-1
L94	burst trans	32-4931-1
L95	chroma TO	32-4878-3
L101	bandpass	32-4929-1
RT200	degaussing	33-1376-6
RV55	horiz bias	38-1379-2
T1	audio output	32-10174-1
T3	vert output	32-10157-1
T4	horiz output (E.P.)	32-10130-5
T4	horiz output (L.P.)	32-10147-1
T5	power (E.P.)	32-10154-1
VR92	color killer	33-5628-6
VR201	12M, focus adj	33-5631-24
VR202	2.5K, tint, preset & A&B manual	33-5644-14
VR205A	500K, vert. hold 500Ω horiz hold	33-5644-16
VR206	25K, volume	33-5656-1
VR207	10Ω, vert cent	33-5609-1
VR208	500Ω, preset & A&B manual bright	33-5644-13
VR209	100Ω, contrast	33-5655-5
VR212	CRT bias, 1M	33-5649-30
	yoke assy.	76-14303-8



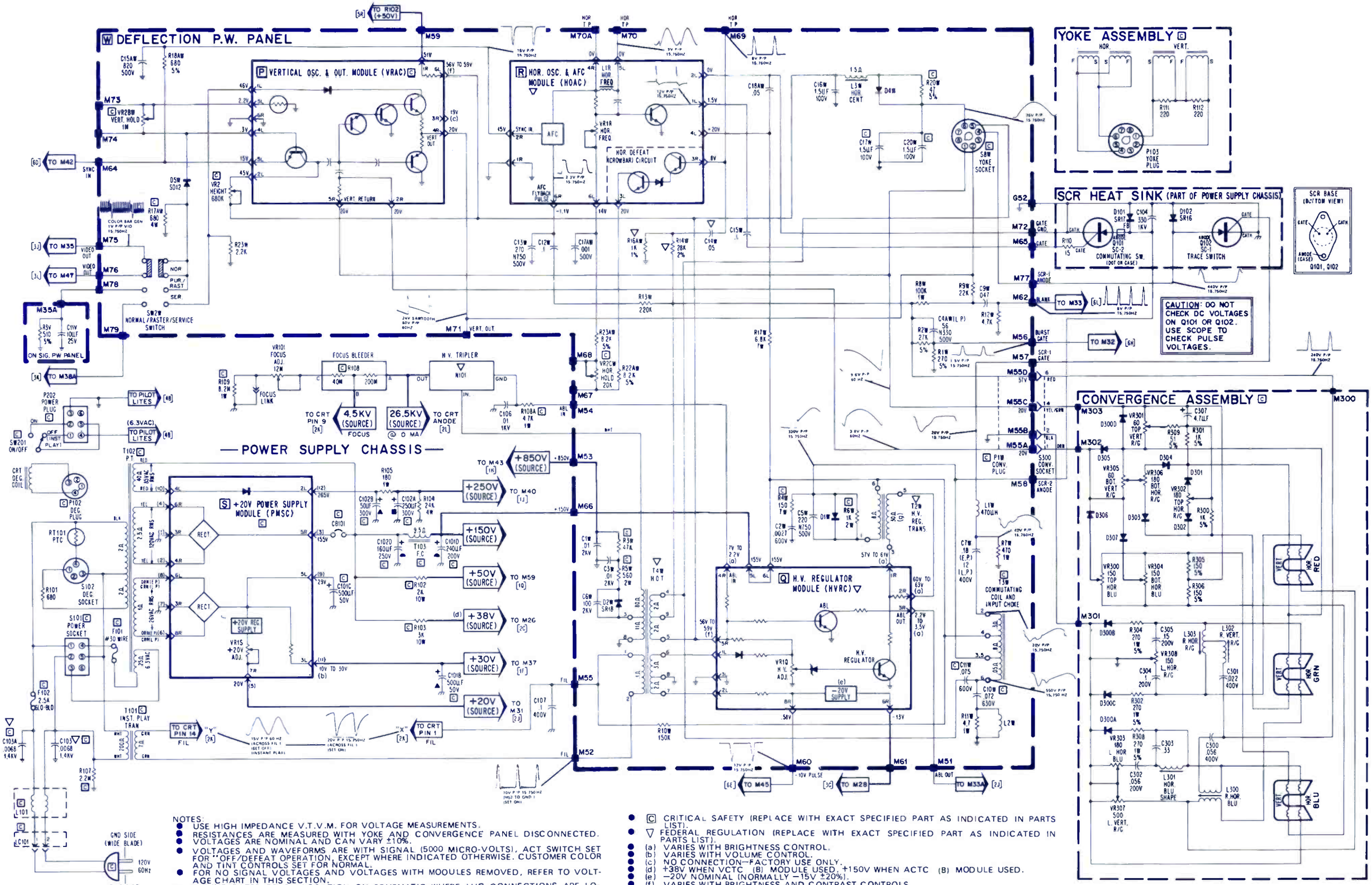
CRT SOCKET WIRING–3CY80 CHASSIS



H.O.T. WIRING–3CY80 CHASSIS



NOTES:
- USE HIGH IMPEDANCE V.T.V.M. FOR VOLTAGE MEASUREMENTS.
- RESISTANCES ARE MEASURED WITH YOKE AND CONVERGENCE PANEL DISCONNECTED.
- VOLTAGES ARE NOMINAL AND CAN VARY ±10%.
- VOLTAGES AND WAVEFORMS ARE WITH SIGNAL (5000 MICRO-VOLTS), ACT SWITCH SET FOR "OFF/DEFEAT OPERATION, EXCEPT WHERE INDICATED OTHERWISE. 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.
- [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).
- (a) VARIES WITH BRIGHTNESS CONTROL.
- (b) VARIES WITH VOLUME CONTROL.
- (c) NO CONNECTION—FACTORY USE ONLY.
- (d) +38V WHEN VCTC (B) MODULE USED, +150V WHEN ACTC (B) MODULE USED.
- (e) −20V NOMINAL (NORMALLY −15V ±20%).
- (h) VARIES WITH BRIGHTNESS, CONTRAST AND COLOR CONTROLS FROM ALL CCW TO ALL CW.
- (j) VARIES WITH TINT CONTROL.
- (k) VARIES WITH COLOR KILLER CONTROL.
- (m) ACT SWITCH SET FOR "ON" OPERATION.
- (p) VARIES WITH SCREEN CONTROL.
- (r) VARIES WITH FOCUS CONTROL.

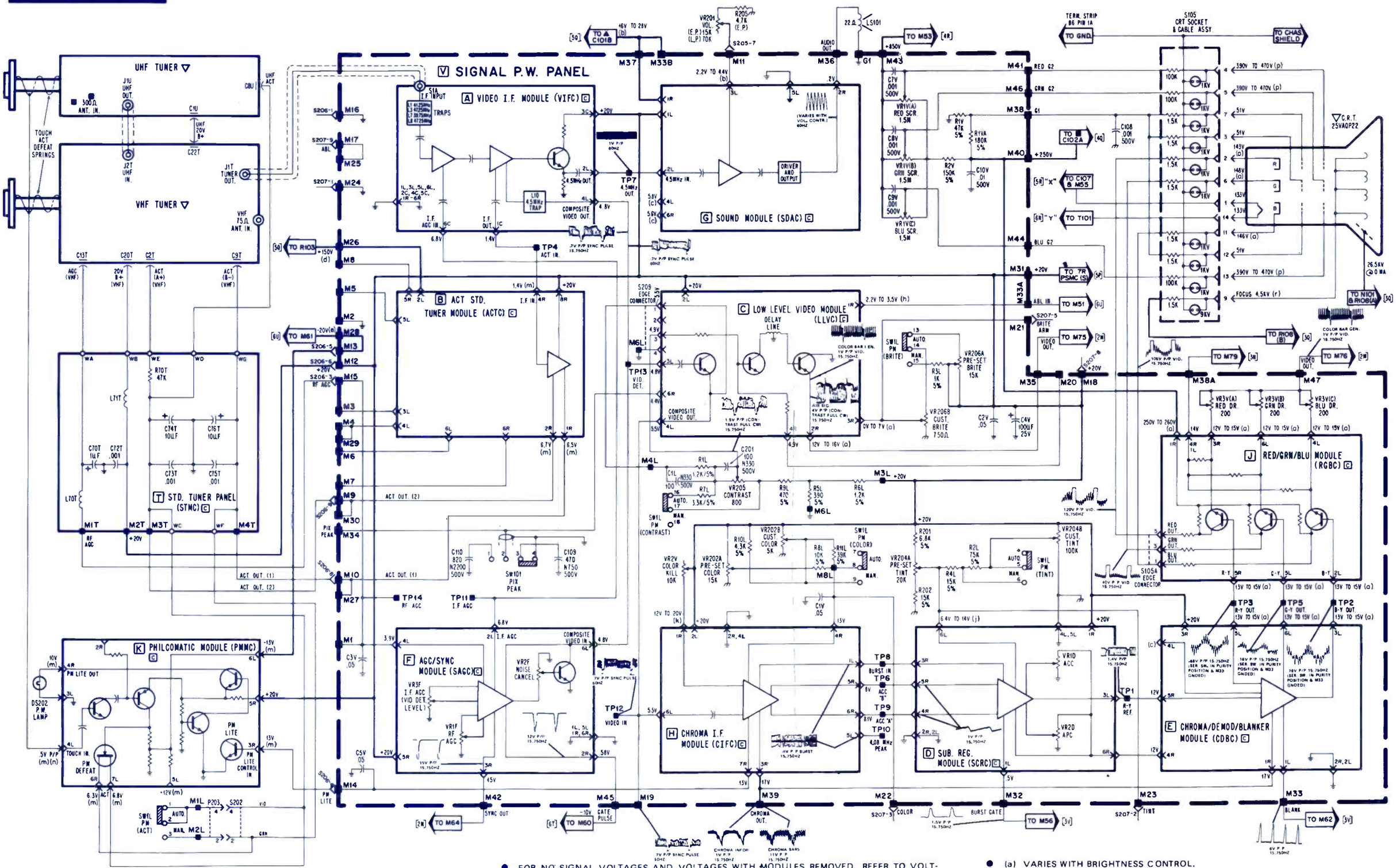


NOTES:

- USE HIGH IMPEDANCE V.T.V.M. FOR VOLTAGE MEASUREMENTS.
- RESISTANCES ARE MEASURED WITH YOKE AND CONVERGENCE PANEL DISCONNECTED.
- VOLTAGES ARE NOMINAL AND CAN VARY ±10%.
- VOLTAGES AND WAVEFORMS ARE WITH SIGNAL (5000 MICRO-VOLTS), ACT SWITCH SET FOR "OFF/DEFEAT OPERATION, EXCEPT WHERE INDICATED OTHERWISE. CUSTOMER COLOR AND TINT CONTROLS SET FOR NORMAL.
- FOR NO SIGNAL VOLTAGES AND VOLTAGES WITH MOODULES REMOVED, REFER TO VOLTAGE CHART IN THIS SECTION.
- [ ] INDICATES GRAPH LOCATION ON SCHEMATIC WHERE LUG CONNECTIONS ARE LOCATED.

- [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).
- (a) VARIES WITH BRIGHTNESS CONTROL.
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- (c) NO CONNECTION—FACTORY USE ONLY.
- (d) +38V WHEN VCTC (B) MODULE USED. +150V WHEN ACTC (B) MODULE USED.
- (e) −20V NOMINAL (NORMALLY −15V ±20%).
- (f) VARIES WITH BRIGHTNESS AND CONTRAST CONTROLS.
- (g) REMOVE MODULE.

PHILCO-FORD
Color-TV Chassis
4CS71

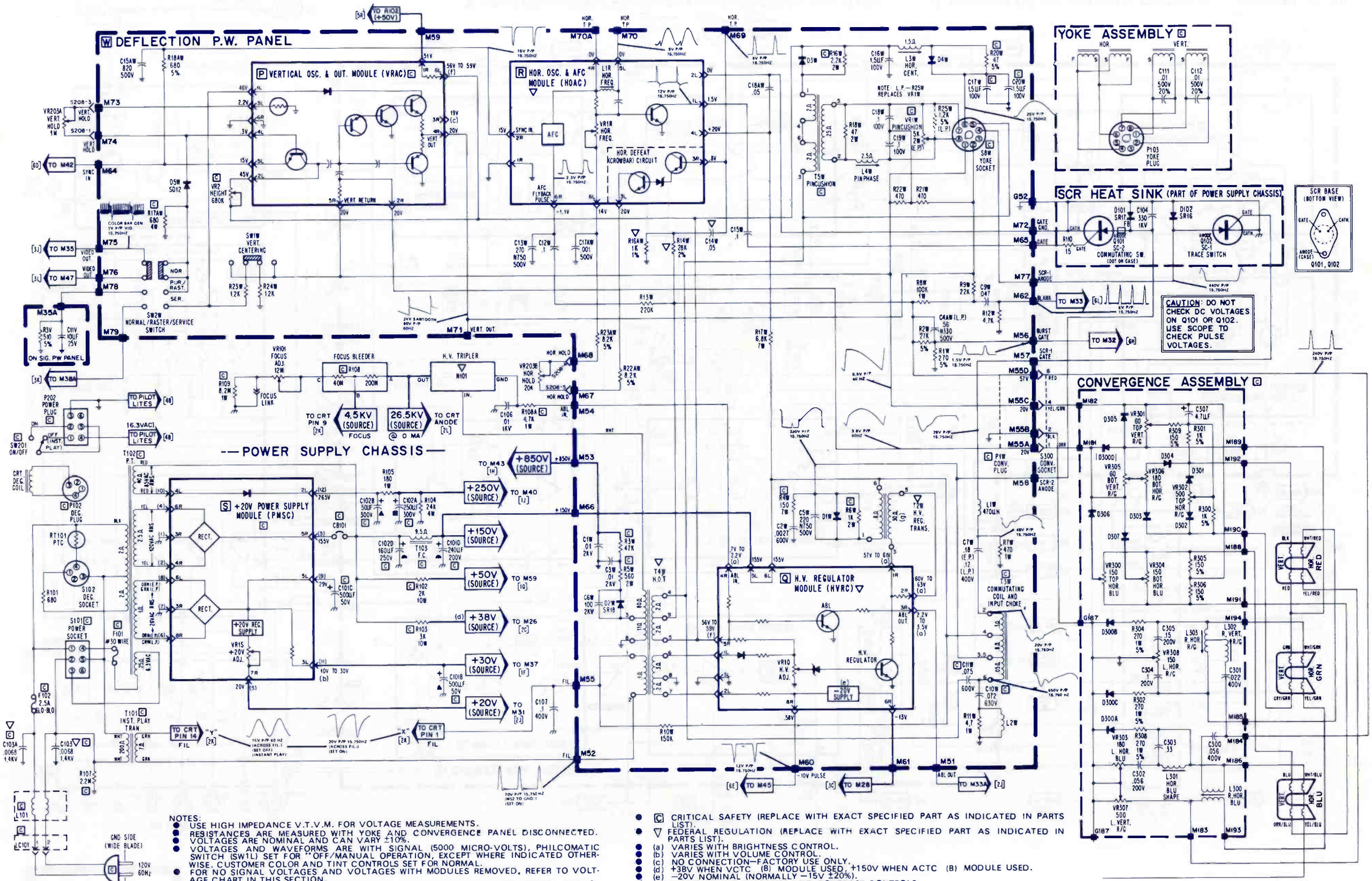


NOTES:
- USE HIGH IMPEDANCE V.T.V.M. FOR VOLTAGE MEASUREMENTS.
- RESISTANCES ARE MEASURED WITH YOKE AND CONVERGENCE PANEL DISCONNECTED.
- VOLTAGES ARE NOMINAL AND CAN VARY ±10%.
- VOLTAGES AND WAVEFORMS ARE WITH SIGNAL (5000 MICRO-VOLTS), PHILCOMATIC SWITCH (SW1L) SET FOR "OFF/MANUAL OPERATION, EXCEPT WHERE INDICATED OTHERWISE. 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.
- 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).
- COMPONENTS AND LUGS ON SCHEMATIC WHICH END IN "L", SUCH AS R1L, M1L, ETC., ARE LOCATED ON THE PHILCOMATIC SWITCH PANEL.
- PHILCOMATIC SWITCH (SW1L) SHOWN IN "ON/AUTOMATIC" POSITION.

SCHEMATIC DIAGRAM—SIGNAL PW PANEL & STANDARD TUNERS—4CY90 (25") CHASSIS

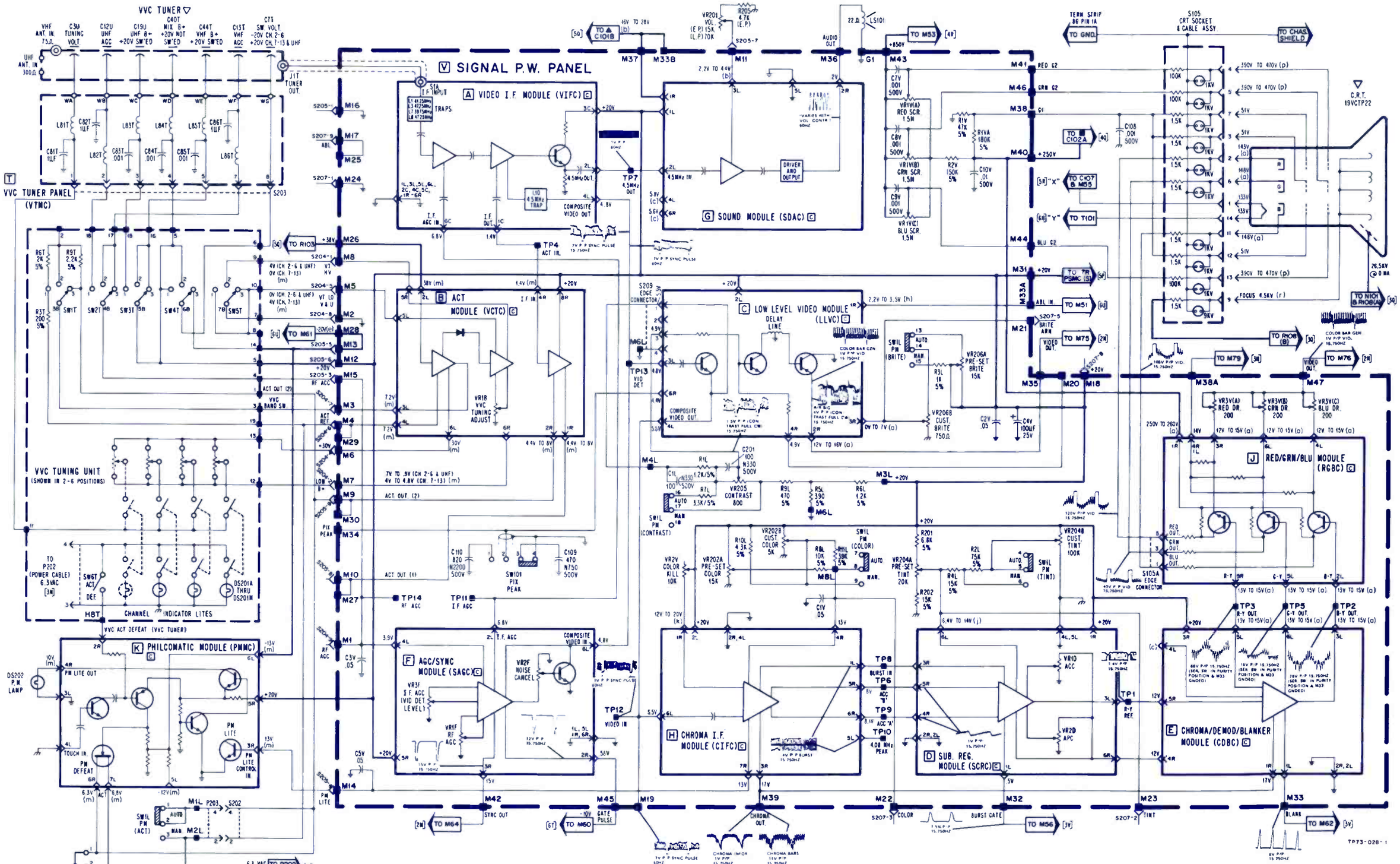
- (a) VARIES WITH BRIGHTNESS CONTROL.
- (b) VARIES WITH VOLUME CONTROL.
- (c) NO CONNECTION—FACTORY USE ONLY.
- (d) +38V WHEN VCTC (B) MODULE USED, +150V WHEN ACTC (B) MODULE USED.
- (e) −20V NOMINAL (NORMALLY −15V ±20%).
- (h) VARIES WITH BRIGHTNESS, CONTRAST AND COLOR CONTROLS FROM ALL CCW TO ALL CW.
- (j) VARIES WITH TINT CONTROL.
- (k) VARIES WITH COLOR KILLER CONTROL.
- (m) PHILCOMATIC SWITCH SET FOR "ON/AUTOMATIC" OPERATION.
- (n) HAND ON FINE TUNE KNOB.
- (p) VARIES WITH SCREEN CONTROL.
- (r) VARIES WITH FOCUS CONTROL.

SYMBOL	DESCRIPTION	PHILCO-FORD PART NO.
	yoke assembly	76-14328-2
SW1L	Philcomatic, push-push, switch	42-2181-1
T102	power xformer	32-10198-1
VR101	12M, focus adjust	33-5655-19
VR201	15K, volume slide	33-5656-2
VR202	color, A-15K/service pre-set, B-5K/ customer	33-5644-22 33-5644-11
VR203	vert hold, A-1M horiz hold, B-20K	33-5644-8
VR204	tint, A20K/service preset, B-100K/	33-5644-23
A/B	customer	33-5644-10
VR205	contrast, 800 Ω	33-5655-10 33-5655-7
C101	500 μf/50v, 500 μf/50v, 240 μf/200v	
B/C/D	B+ filter	30-2616-33
C102	250 μf/300v, 50 μf/300v, 160 μf/250v	
A/B/D	B+ filter	30-2626-14
L3W	horiz centering coil	32-4979-4
SW1W	vert centering switch	42-2178-1
T2W	high volt regulator	32-10183-1
T4W	HV xformer	32-10181-2
VR2W	680K, height	33-5654-5
VR1V	1.5M, 3 sect red, green, blue	
A/B/C	screens	33-5645-6
VR2V	10K, color killer	33-5628-25
VR3V	200 Ω, 3 sect., red, green & blue	
A/B/C	drives	33-5654-1



NOTES:
- USE HIGH IMPEDANCE V.T.V.M. FOR VOLTAGE MEASUREMENTS.
- RESISTANCES ARE MEASURED WITH YOKE AND CONVERGENCE PANEL DISCONNECTED.
- VOLTAGES ARE NOMINAL AND CAN VARY ±10%.
- VOLTAGES AND WAVEFORMS ARE WITH SIGNAL (5000 MICRO-VOLTS), PHILCOMATIC SWITCH (SW1L) SET FOR "OFF/MANUAL OPERATION, EXCEPT WHERE INDICATED OTHERWISE. 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.

- [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).
- (a) VARIES WITH BRIGHTNESS CONTROL.
- (b) VARIES WITH VOLUME CONTROL.
- (c) NO CONNECTION—FACTORY USE ONLY.
- (d) +38V WHEN VCTC (B) MODULE USED, +150V WHEN ACTC (B) MODULE USED.
- (e) −20V NOMINAL (NORMALLY −15V ±20%).
- (f) VARIES WITH BRIGHTNESS AND CONTRAST CONTROLS.
- (g) REMOVE MODULE.

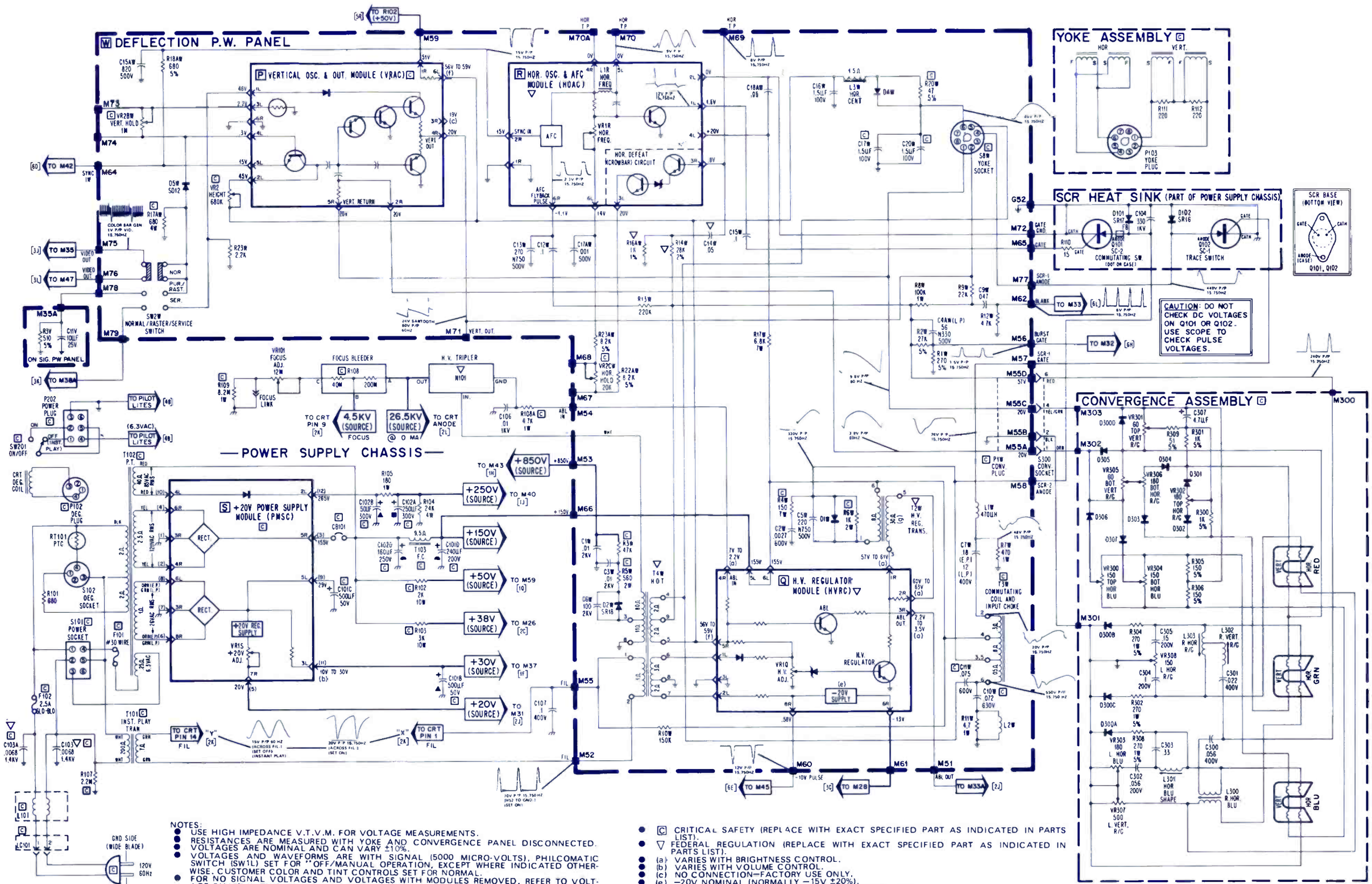


NOTES:
- USE HIGH IMPEDANCE V.T.V.M. FOR VOLTAGE MEASUREMENTS.
- RESISTANCES ARE MEASURED WITH YOKE AND CONVERGENCE PANEL DISCONNECTED.
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- ▽ FEDERAL REGULATION (REPLACE WITH EXACT SPECIFIED PART AS INDICATED IN PARTS LIST).

SCHEMATIC DIAGRAM—SIGNAL PW PANEL & VVC TUNER—4CS73 (19") CHASSIS

- COMPONENTS AND LUGS ON SCHEMATIC WHICH END IN "L", SUCH AS R1L, M1L, ETC., ARE LOCATED ON THE PHILCOMATIC SWITCH PANEL.
- PHILCOMATIC SWITCH (SW1L) SHOWN IN "ON/AUTOMATIC" POSITION.
- (a) VARIES WITH BRIGHTNESS CONTROL.
- (b) VARIES WITH VOLUME CONTROL.
- (c) NO CONNECTION—FACTORY USE ONLY.
- (e) −20V NOMINAL (NORMALLY −15V ±20%).
- (h) VARIES WITH BRIGHTNESS, CONTRAST AND COLOR CONTROLS FROM ALL CCW TO ALL CW.
- (j) VARIES WITH TINT CONTROL.
- (k) VARIES WITH COLOR KILLER CONTROL.
- (m) PHILCOMATIC SWITCH SET FOR "ON/AUTOMATIC" OPERATION.
- (p) VARIES WITH SCREEN CONTROL.
- (r) VARIES WITH FOCUS CONTROL.



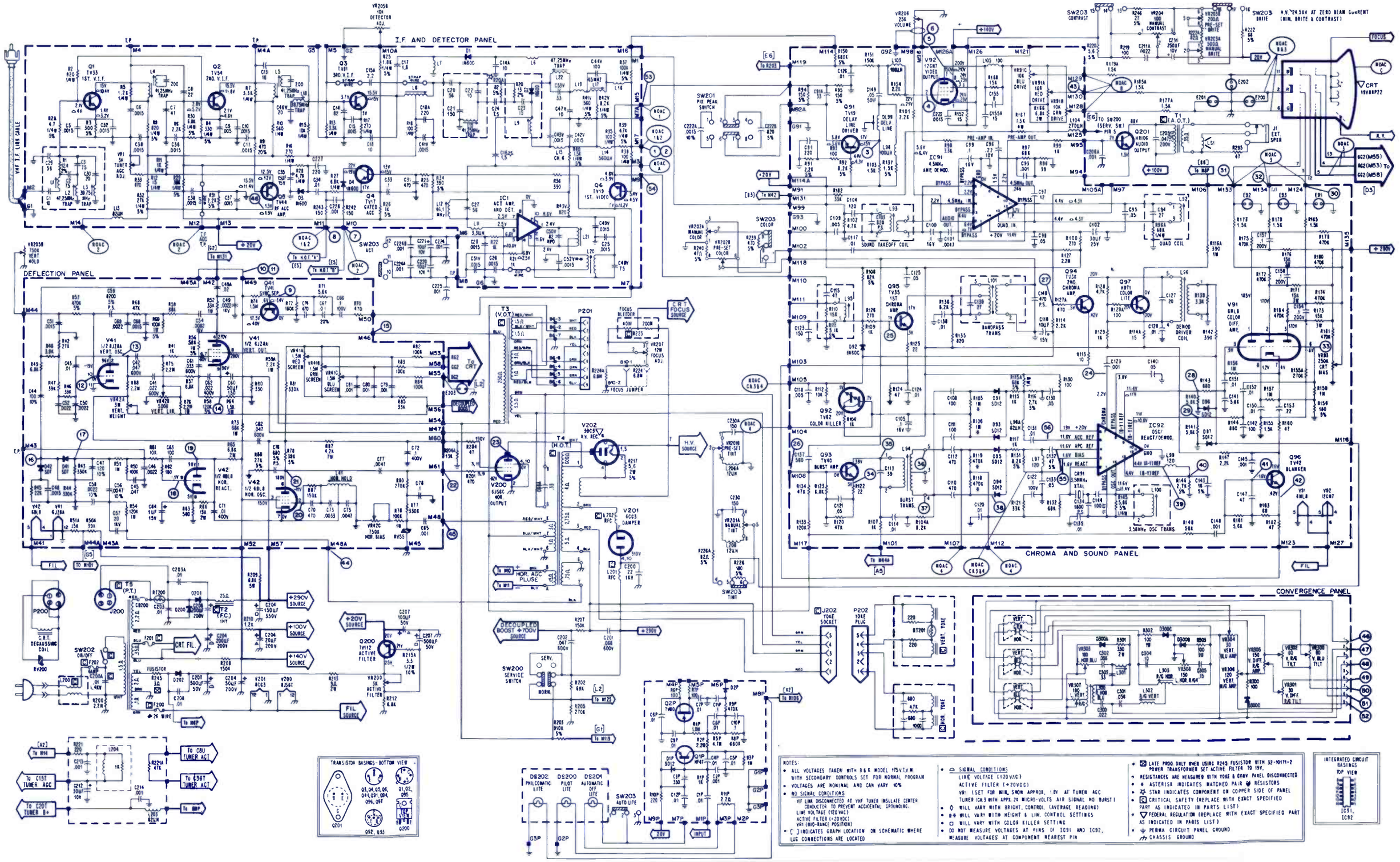
NOTES:

- USE HIGH IMPEDANCE V.T.V.M. FOR VOLTAGE MEASUREMENTS.
- RESISTANCES ARE MEASURED WITH YOKE AND CONVERGENCE PANEL DISCONNECTED.
- VOLTAGES ARE NOMINAL AND CAN VARY ±10%.
- VOLTAGES AND WAVEFORMS ARE WITH SIGNAL (5000 MICRO-VOLTS), PHILCOMATIC SWITCH (SW1L) SET FOR "OFF/MANUAL OPERATION, EXCEPT WHERE INDICATED OTHERWISE. CUSTOMER COLOR AND TINT CONTROLS SET FOR NORMAL.
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- (e) −20V NOMINAL (NORMALLY −15V ±20%).
- (f) VARIES WITH BRIGHTNESS AND CONTRAST CONTROLS.
- (g) REMOVE MODULE.

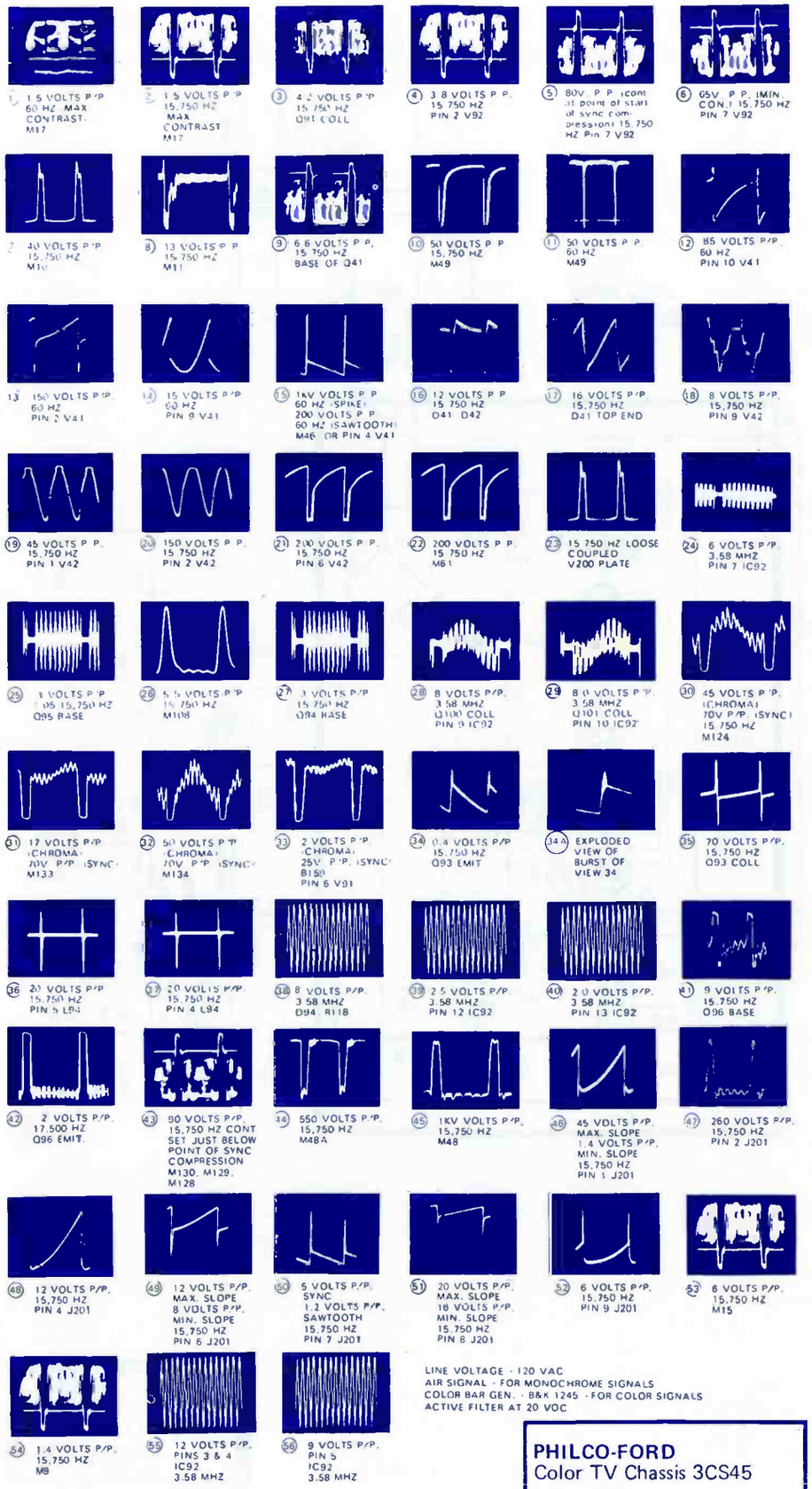
PHILCO-FORD
Color TV Chassis
3CS45

SYMBOL	DESCRIPTION	PHILCO-FORD PART NO.
C204A	—200µf/200v, 150µf/350v, 20µf/200v thru D—50µf/200v, B+ filter	30-2625-3
C207A	—500, 500, 100µf/50v, +20v supply B,C—active filter base & emit	30-2625-2
CB200	—power AC	42-2136-10
IC1	—act IC	46-5002-6
IC91	—IC-8, aud/I.F./det IC	46-5002-8
IC92	—IC-21, osc/react/det IC	46-5002-21
L41	—horiz hold coil	32-4891-2
L92	—sound quad, coil	32-4876-1
L93	—sound T.O. coil	32-4936-3
L94	—burst xformer	32-4931-1
L95	—chroma TO	32-4878-3
L100	—3.58MHz osc out coil	32-4932-2
L101	—bandpass xformer TO	32-4929-1
R223	—focus bleeder	33-1390-1
R245	—3Ω fusistor	33-1381-5
RV55	—horiz bias varistor	33-1379-2
RV200	—degaussing coil	33-1379-1
SW202	—on/off power AC	42-2167-4
T1	—audio output xformer	32-10156-1
T2	—filter choke	32-10155-3
T3	—vert output xformer	32-10167-1
T5	—power LP	32-10171-2
T5	—power EP	32-10171-2
VR42	—A-vert ht, B-lin, C-horiz bias	33-5627-3
VR93	—CRT bias	33-5628-12
VR202A,B	—500Ω, color, manual & preset	33-5644-20
VR203A,B	—brightness manual & preset	33-5644-18
VR204	—100Ω contrast	33-4555-6
VR205A,B	—750K, vert hold 10K, det adjust	33-5644-21
VR206	—25K, volume	33-5656-1
	tuner ITT152CD UHF	76-13827-13
	tuner TT191C VHF	76-14296-4



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 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.



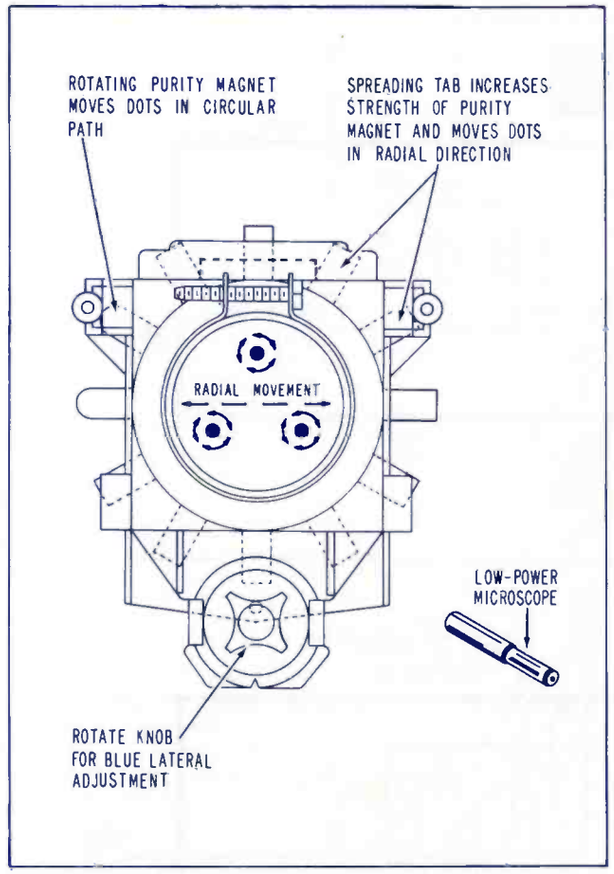
CRT	
PIN	VOLTAGE
2 R-K	+270
3 R-G1	-9
4 R-G2	440 TO 660
5 G-G2	440 TO 660
6 G-K	270
7 G-G1	84
11 B-K	270
12 B-G1	-9
13 B-G2	440 TO 660

NOTES

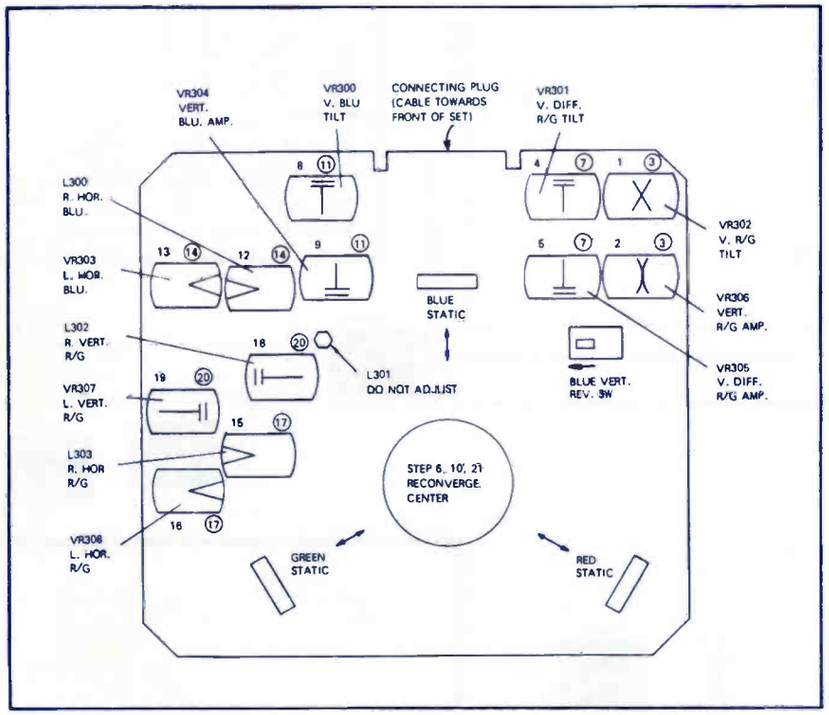
CRT BIAS	MIN
BRIGHTNESS	FULL CCW
CONTRAST	FULL CCW
CHROMA	FULL CCW
SERVICE SW.	NORMAL
LINE VOLTAGE	120 VAC

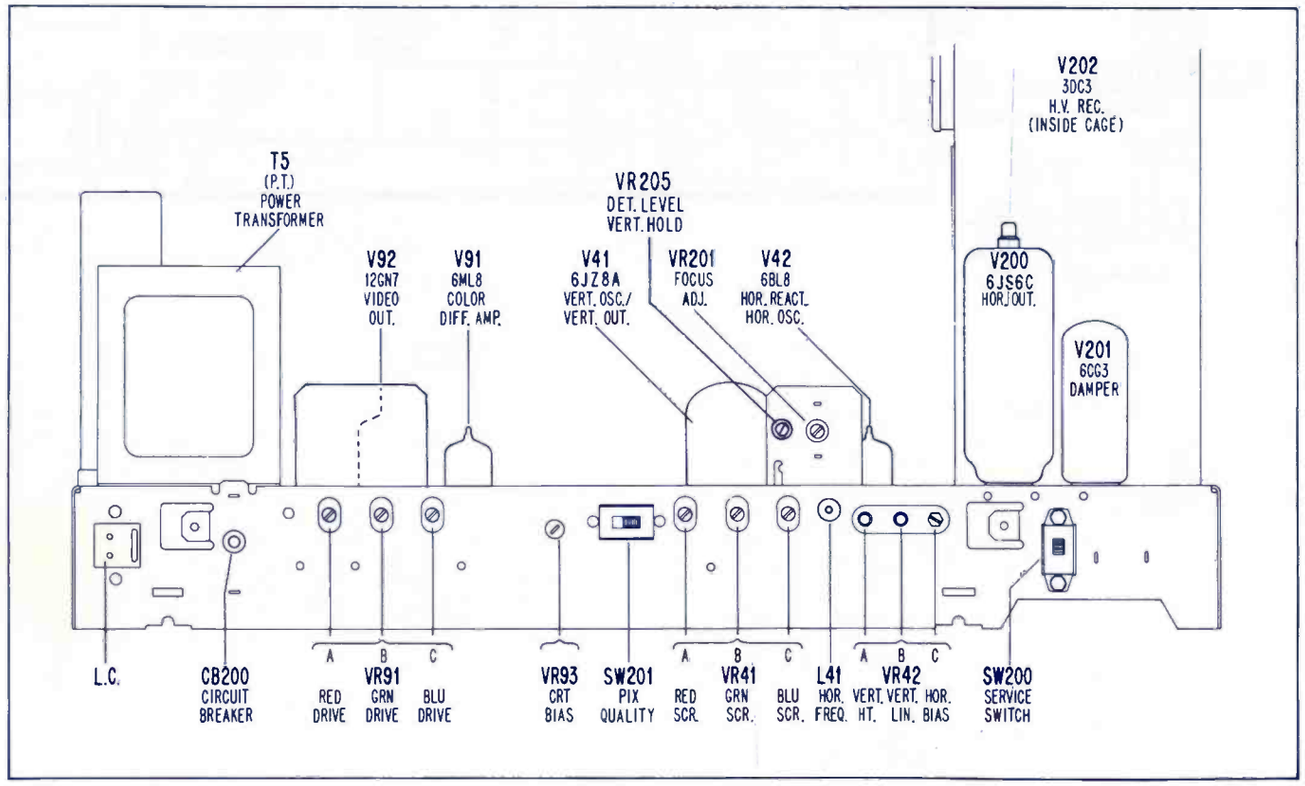
LINE VOLTAGE - 120 VAC
AIR SIGNAL - FOR MONOCHROME SIGNALS
COLOR BAR GEN. - B&K 1245 - FOR COLOR SIGNALS
ACTIVE FILTER AT 20 VOC

PHILCO-FORD
Color TV Chassis 3CS45

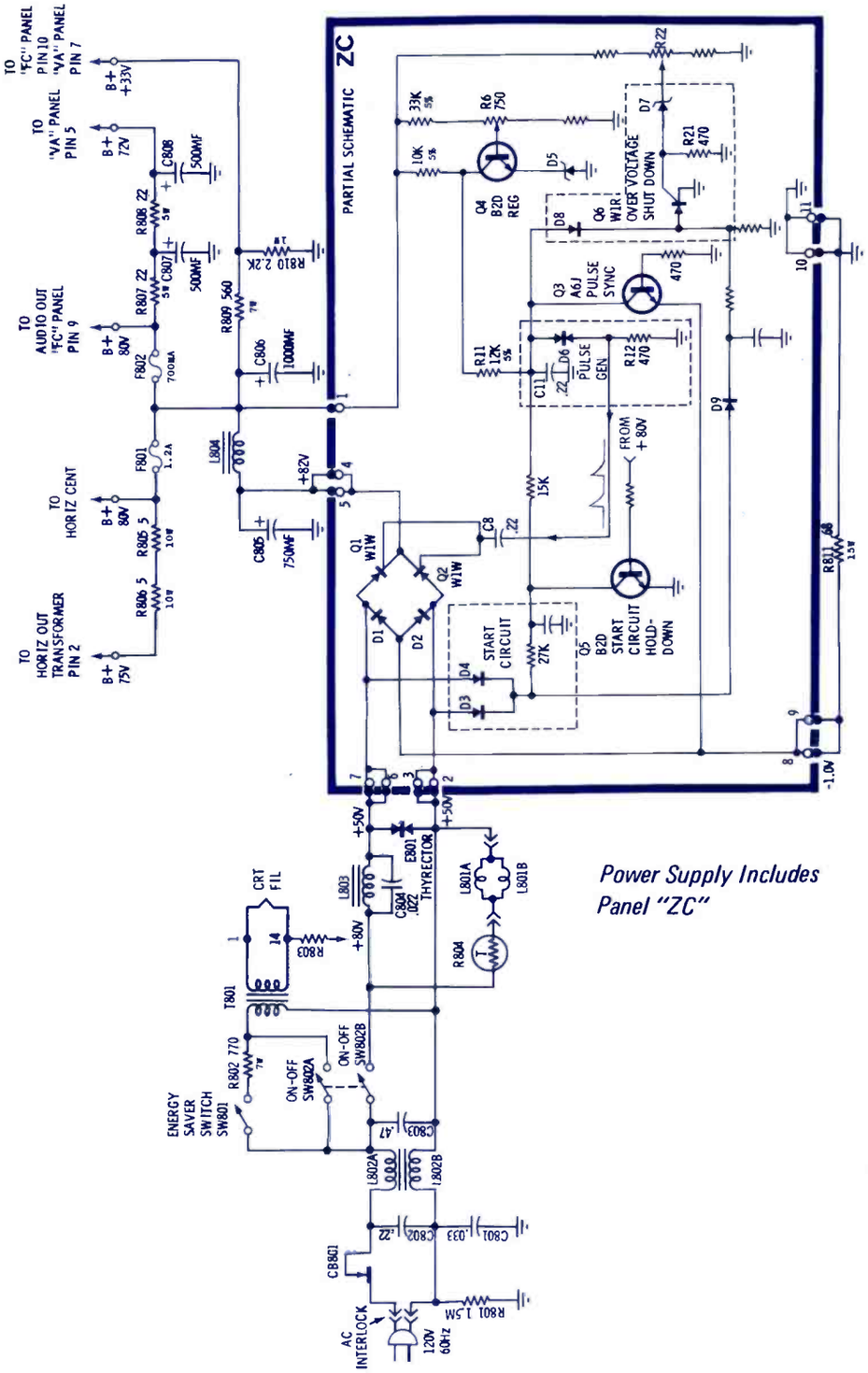


CENTER LANDING ADJUSTMENTS

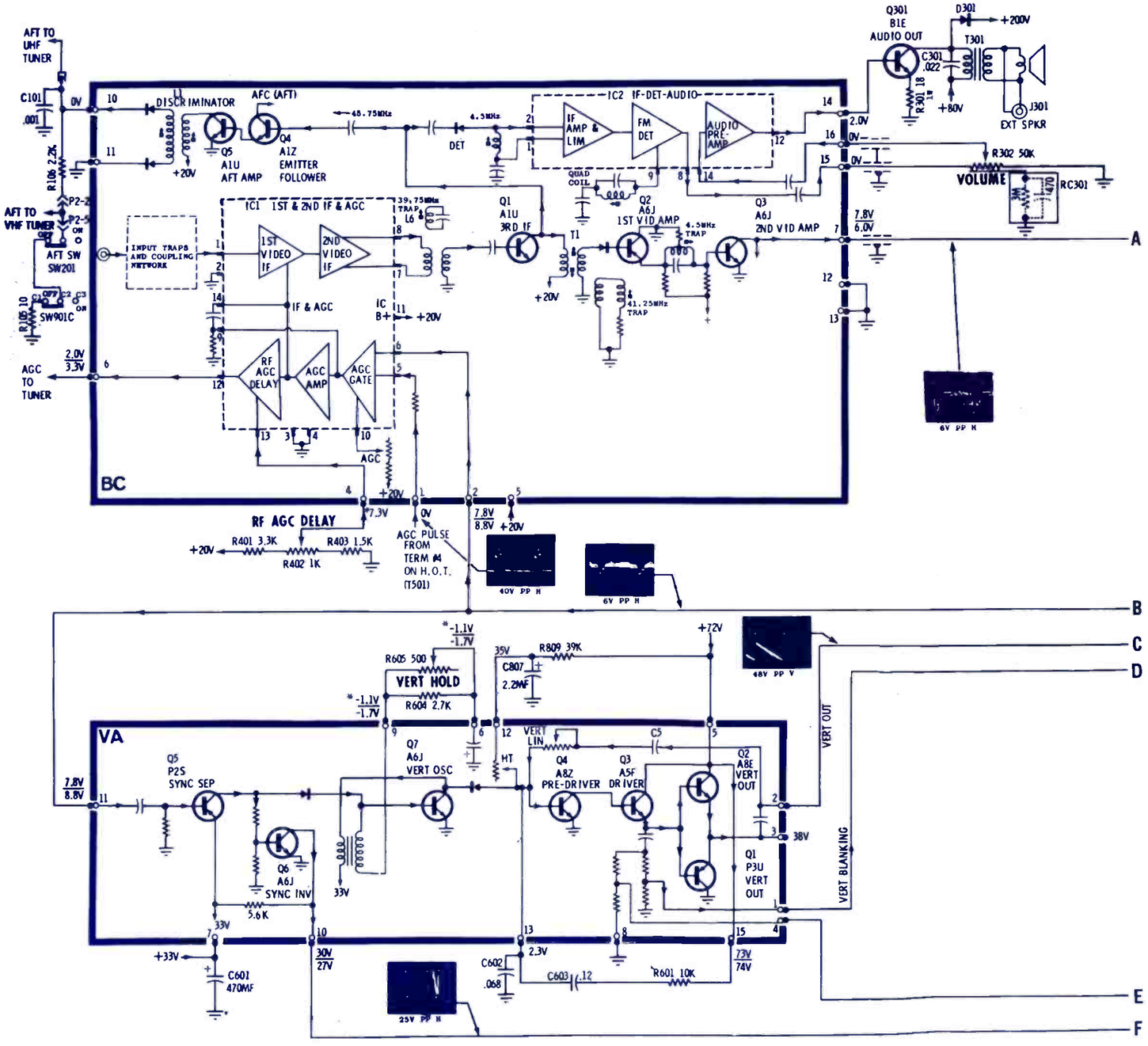




CRT COLOR TEMPERATURE ADJ.

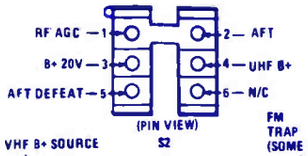


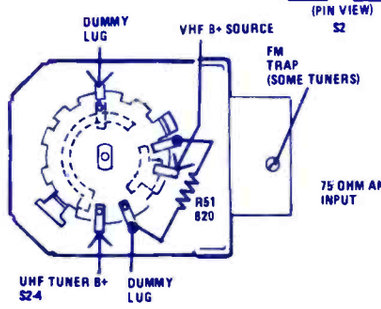
Power Supply Includes Panel "ZC"

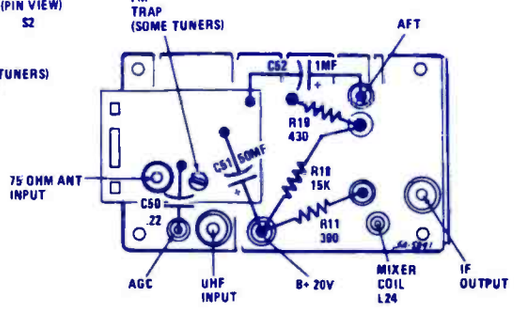


VHF TUNERS TERMINAL DETAILS

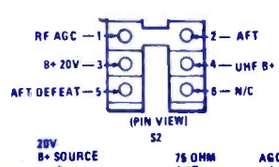
CPTT-462

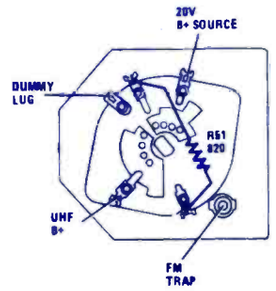


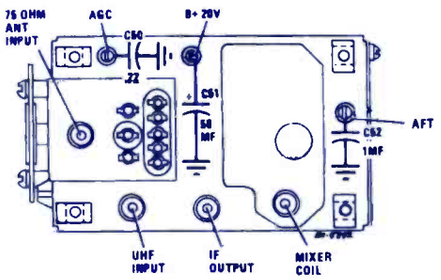


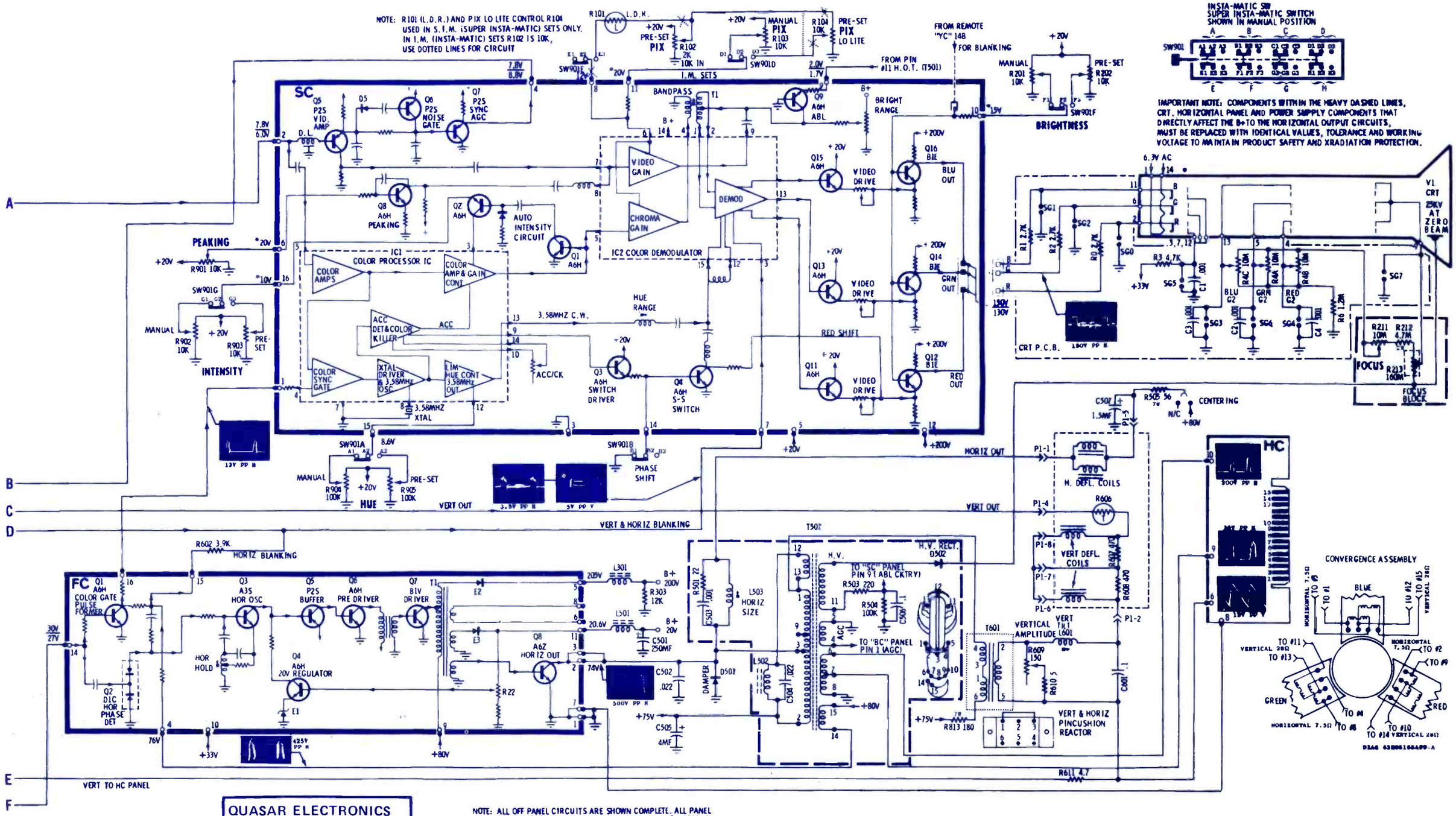


CPTT-463









QUASAR ELECTRONICS
Color TV Chassis 17TS-941, C19, E19, 19TS-941

NOTE: ALL OFF PANEL CIRCUITS ARE SHOWN COMPLETE. ALL PANEL SCHEMATICS ARE SIMPLIFIED TO SHOW PANEL FUNCTIONS ONLY.

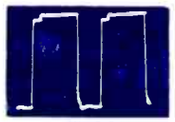
RCA SALES CORP.
TV Chassis
KCS191

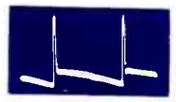

30V P-P
HORIZ. RATE

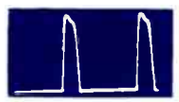

30V P-P
HORIZ. RATE


30V P-P
HORIZ. RATE

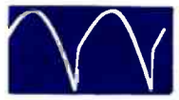

30V P-P
VERT. RATE


11V P-P
HORIZ. RATE


50V P-P
VERT. RATE


600V P-P
HORIZ. RATE

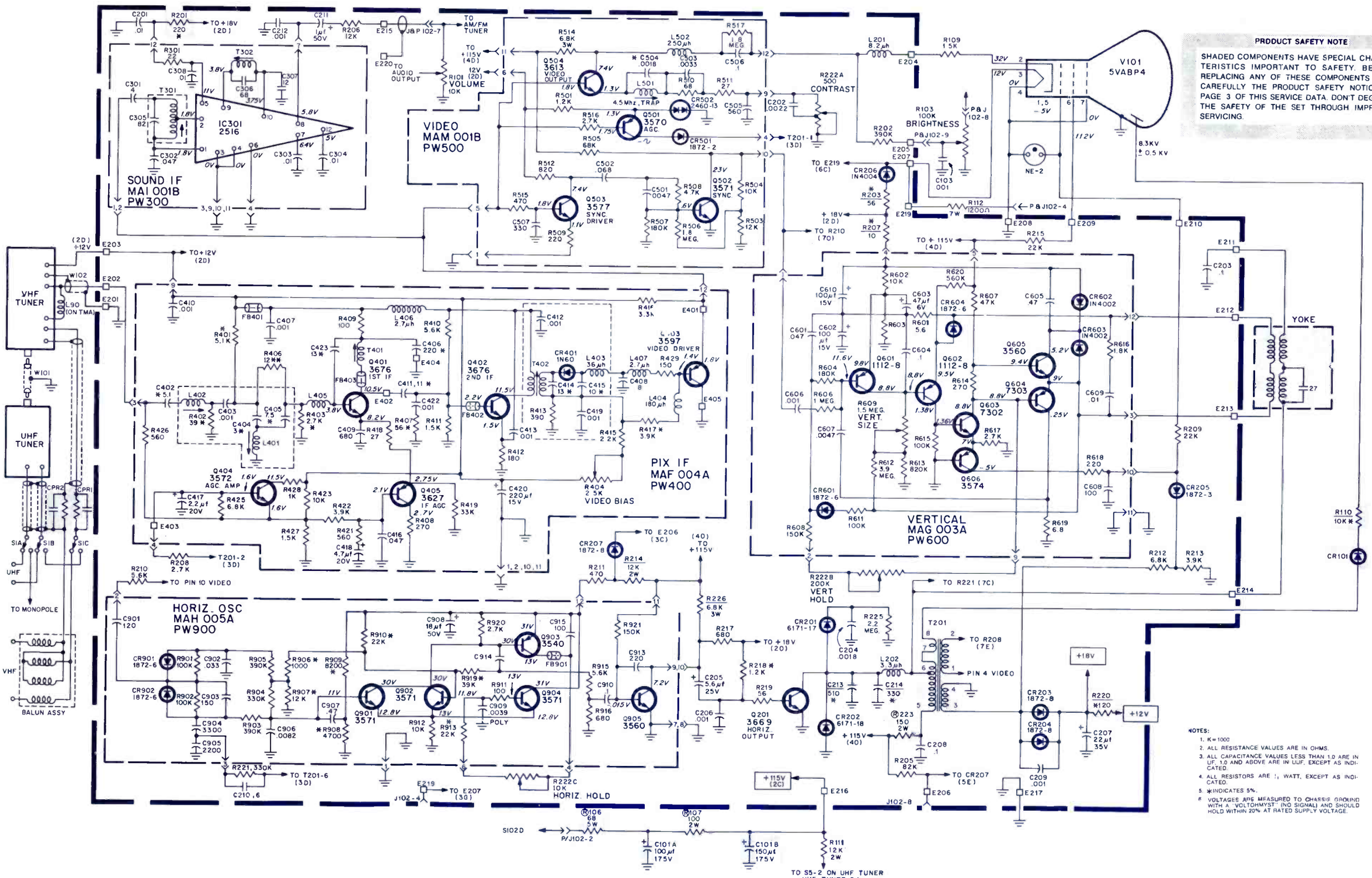

48V P-P
VERT. RATE


2.5V P-P
VERT. RATE

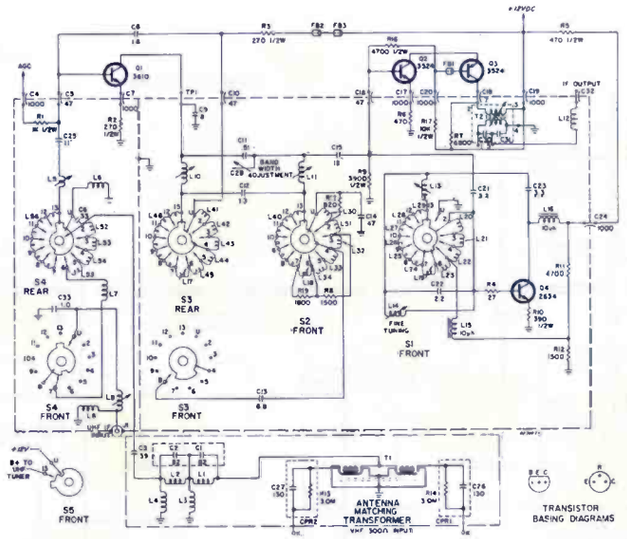
SYMBOL	DESCRIPTION	RCA PART NO.
C101	2 section elect	137324
CPR1	circuit encapsulated	132650
CPR2	circuit encapsulated	132650
F101	fuse	137325
	yoke, deflection assembly	137347
T301	xformer	130120
T302	xformer	130121
PW400	module, complete MAF004A	137326
PW500	module, complete MAM001B	131951
PW600	module, complete MAG003A	137327
PW900	module, complete MAH005A	137328

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.



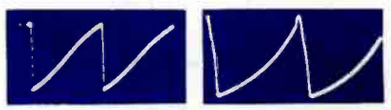
NOTES:
1. K = 1000
2. ALL RESISTANCE VALUES ARE IN OHMS.
3. ALL CAPACITANCE VALUES LESS THAN 1.0 ARE IN UF. 1.0 AND ABOVE ARE IN UUF, EXCEPT AS INDICATED.
4. ALL RESISTORS ARE ½ WATT, EXCEPT AS INDICATED.
5. *INDICATES 5%.
R VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "VOLTOHMYST" (NO SIGNAL) AND SHOULD HOLD WITHIN 20% AT RATED SUPPLY VOLTAGE.



KRK 176B/150A

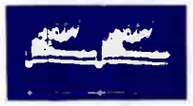
TUNER SCHEMATICS

SYMBOL	DESCRIPTION	RCA PART NO.
R101	control, brite	128154
R105	control, volume w/s101	128153
T101	power xformer	135812
R207	control, contrast	132554
R211	control, vert hold, size/bias	131794
T202	xformer, high voltage	135746
	yoke deflect	135733
1C301	circuit, integ	130751
T902	xformer sound output	132848



PW600 PIN-9
1.5VPP VERT. RATE

PW900 PIN-6
28VPP HORZ. RATE



PW400 PIN-12
1.5VPP VERT. RATE



BASE Q202
1.5VPP VERT. RATE



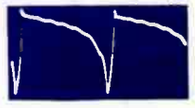
E16
1VPP VERT. RATE



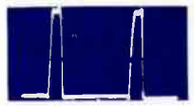
COLL. Q202
60VPP VERT. RATE



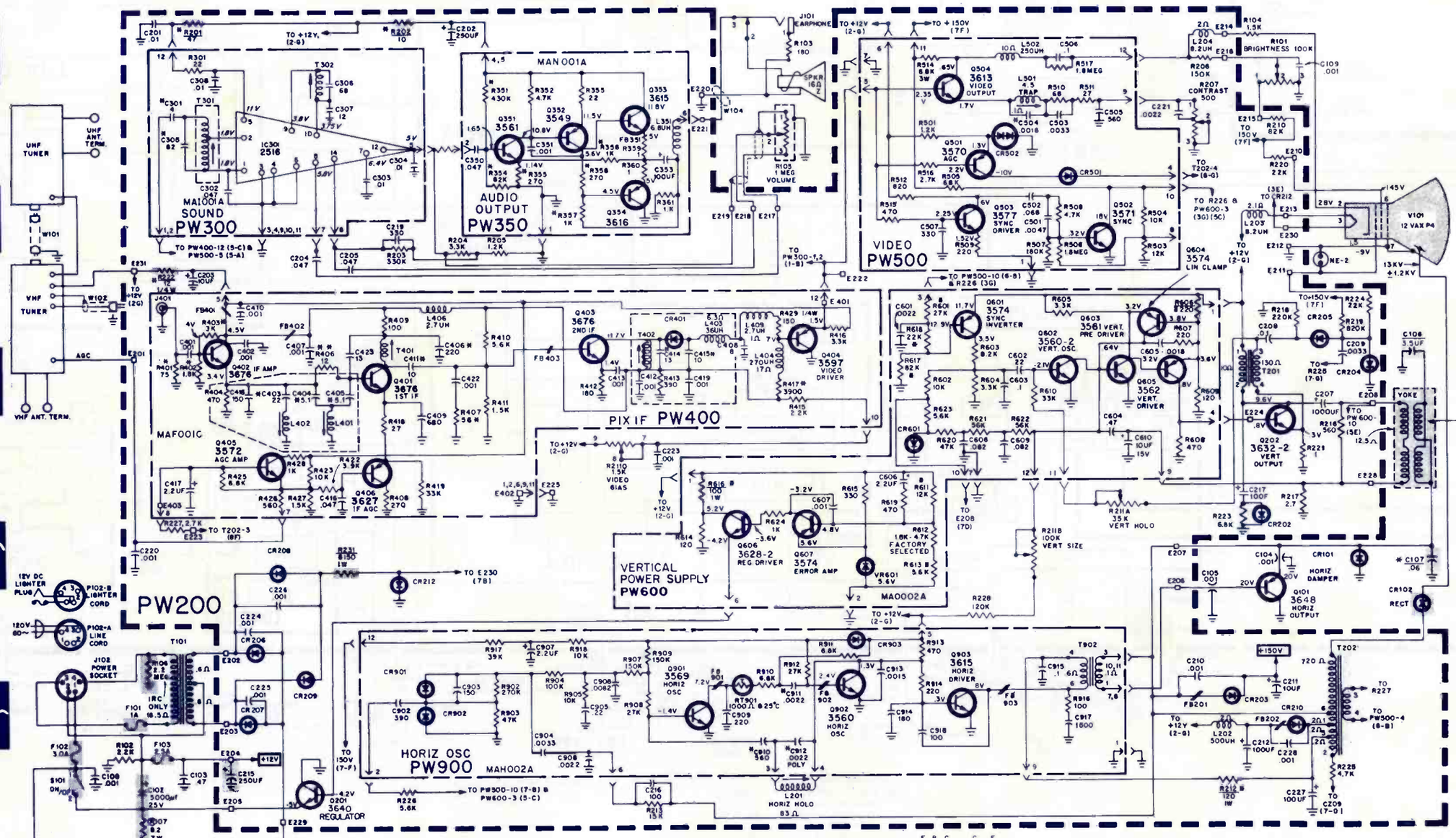
PW600 PIN-12
.7VPP VERT. RATE

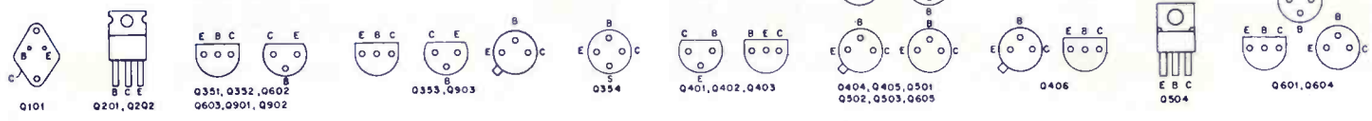


PW900 PIN-2
25VPP HORZ. RATE





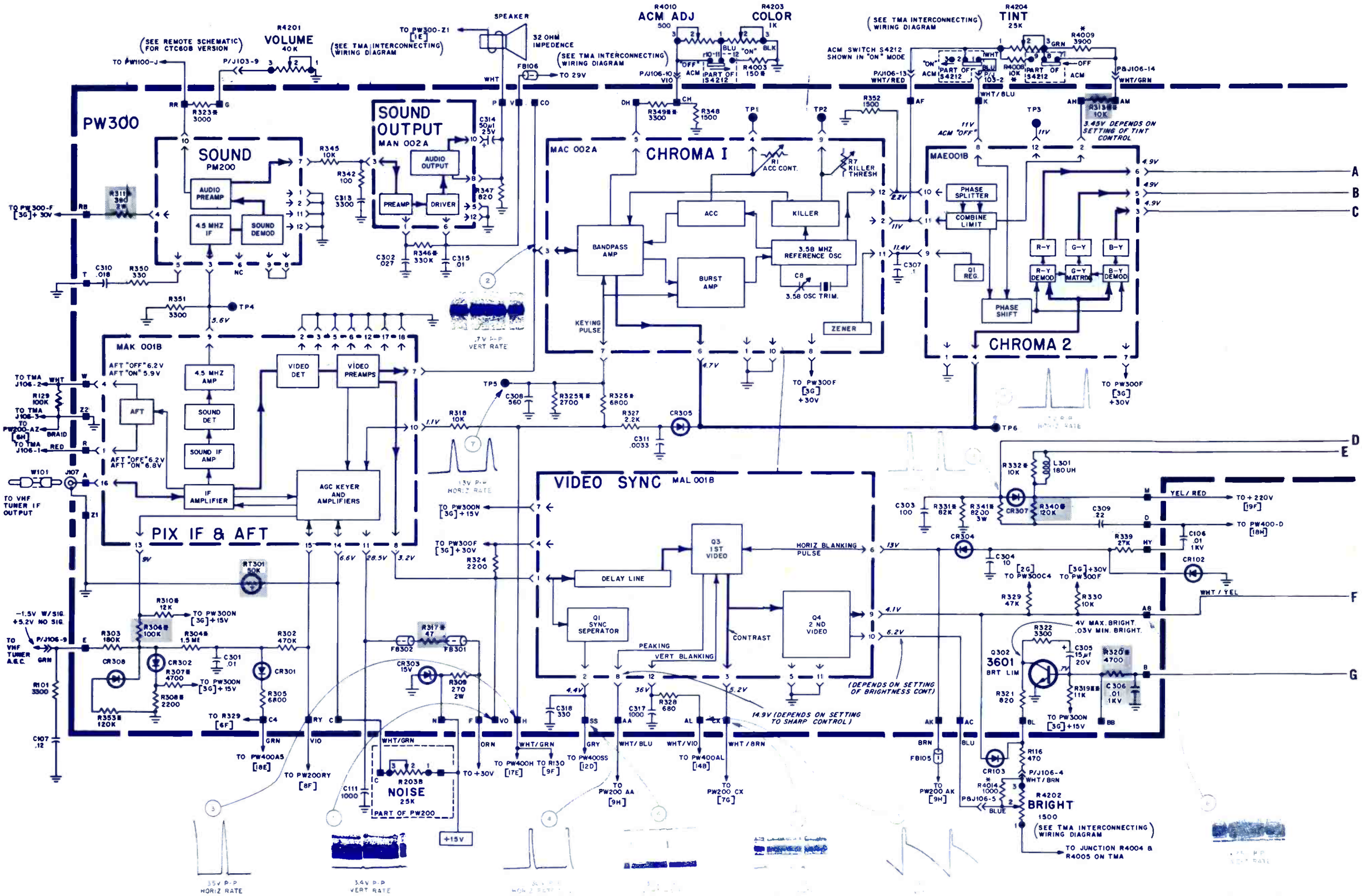


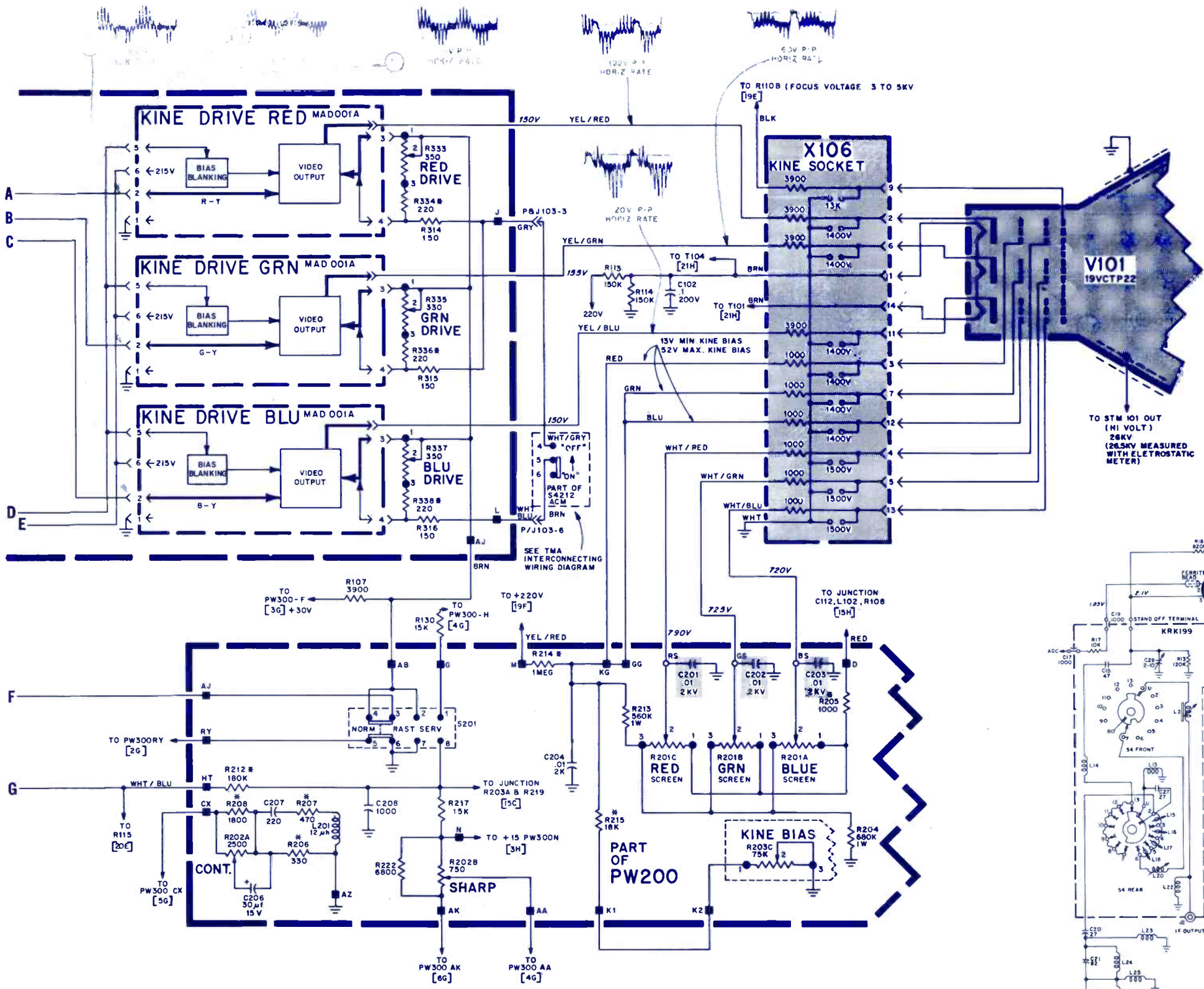


RCA CORP.
TV Chassis
KCS187

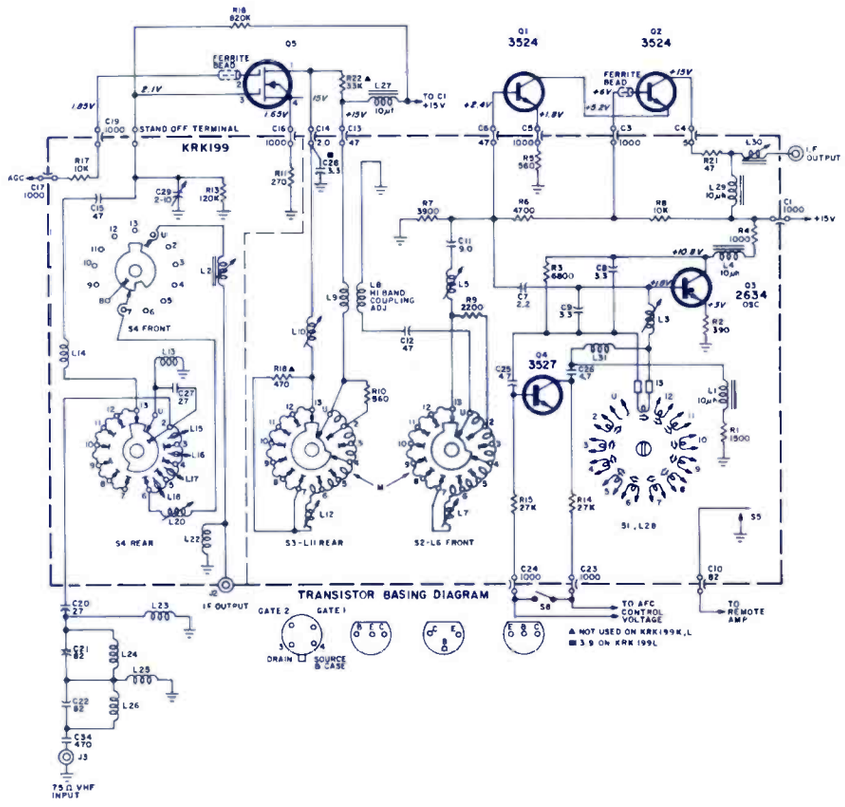
RCA SALES CORP.
Color-TV Chassis
CTC60 Series

SYMBOL	DESCRIPTION	RCA PART NO.
R4201	control, volume	137475
R4202	control, brightness	137477
R4203	control, color	137476
R4204	control, tint	137478
C103	3 section elect	132588
C104	3 section elect	132380
C105	3 section elect	137644
CB101	circuit breaker	138123
T101	xformer	132594
R201A	control blue screen	132163
R201B	control green screen	132163
R201C	control red screen	132163
R202A	control contrast	137668
R202B	control sharp	137668
R202C	control vert hold	137668
R203A	control vert height	137669
R203B	control noise	137669
R203C	control kine bias	137669
RT301	thermistor	116109
T401	xformer	137674
RV1101	varistor	133589
R7	control killer	132170
R9	control ACM adj	133497
	yoke, deflection	137542

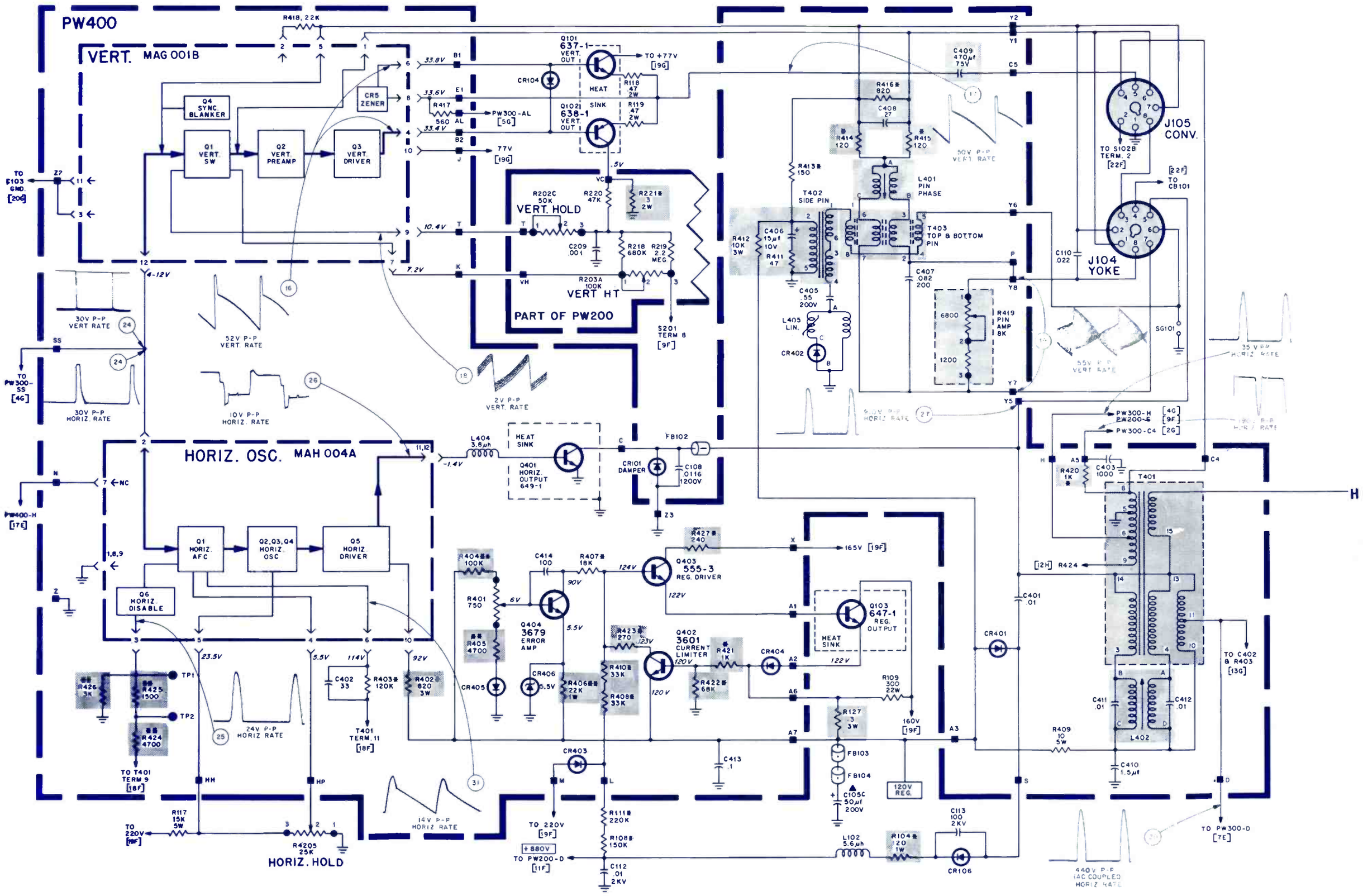


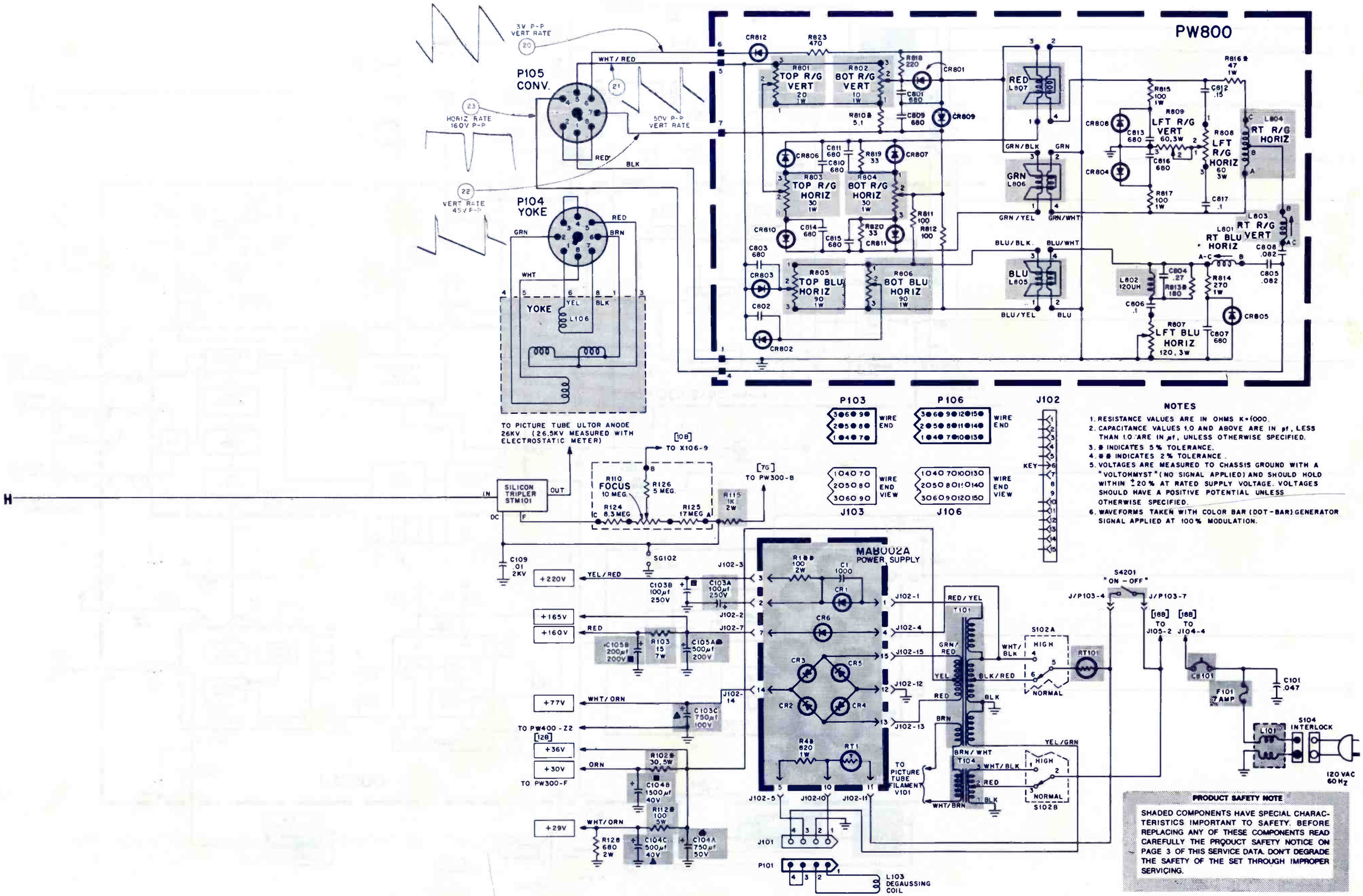


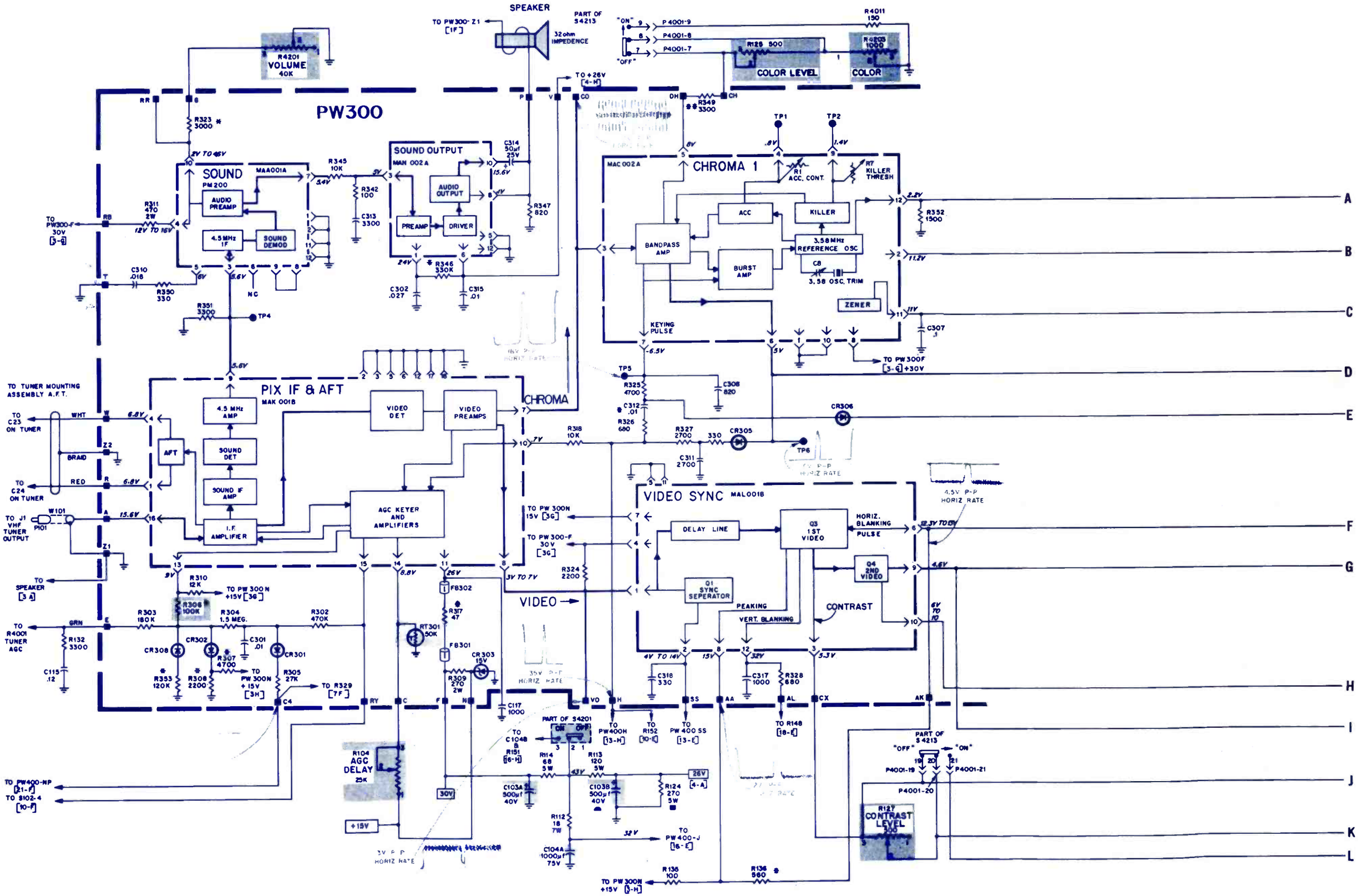
TUNER SCHEMATIC

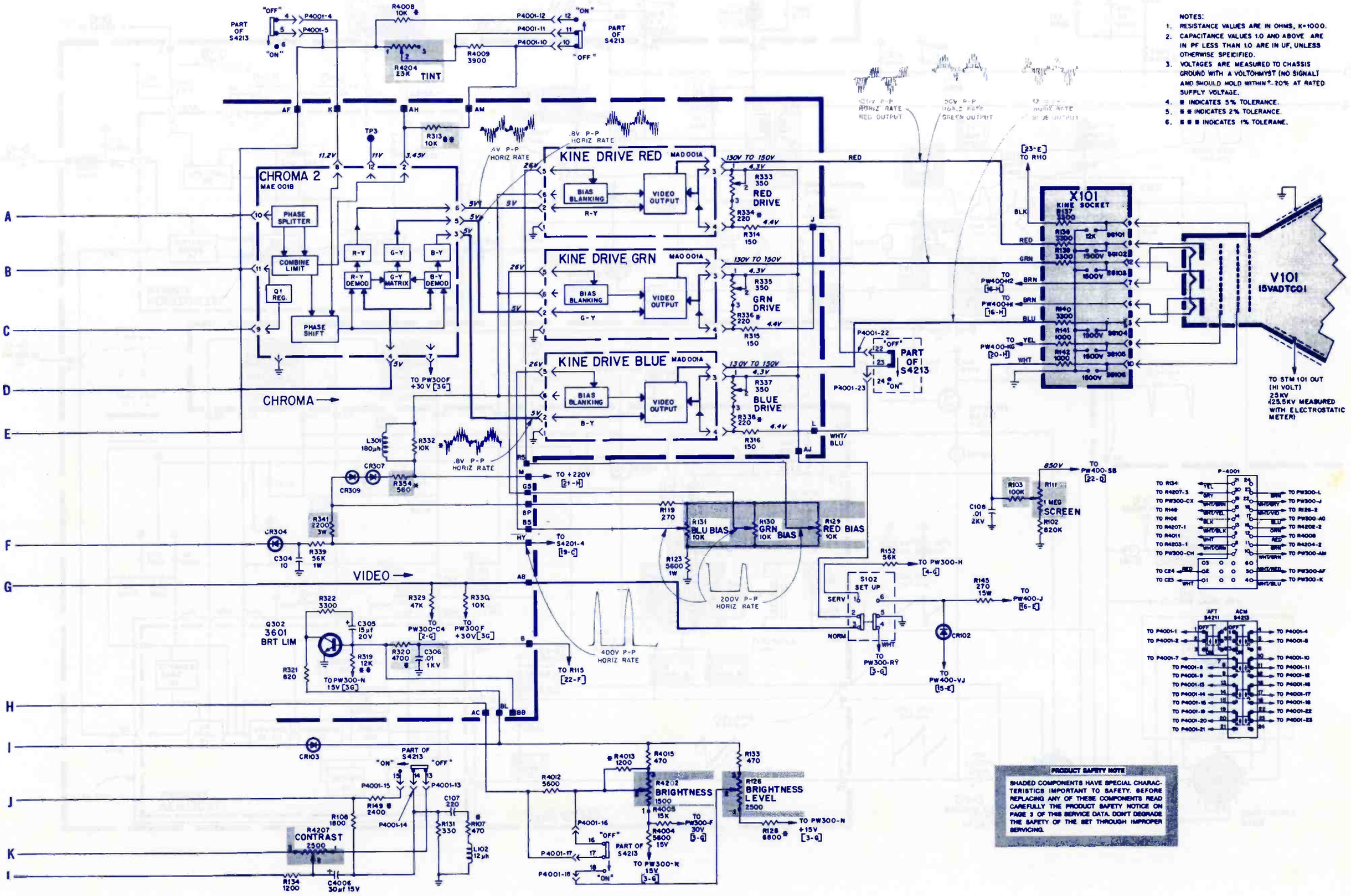


RCA SALES CORP.
Color-TV Chassis
CTC60 Series

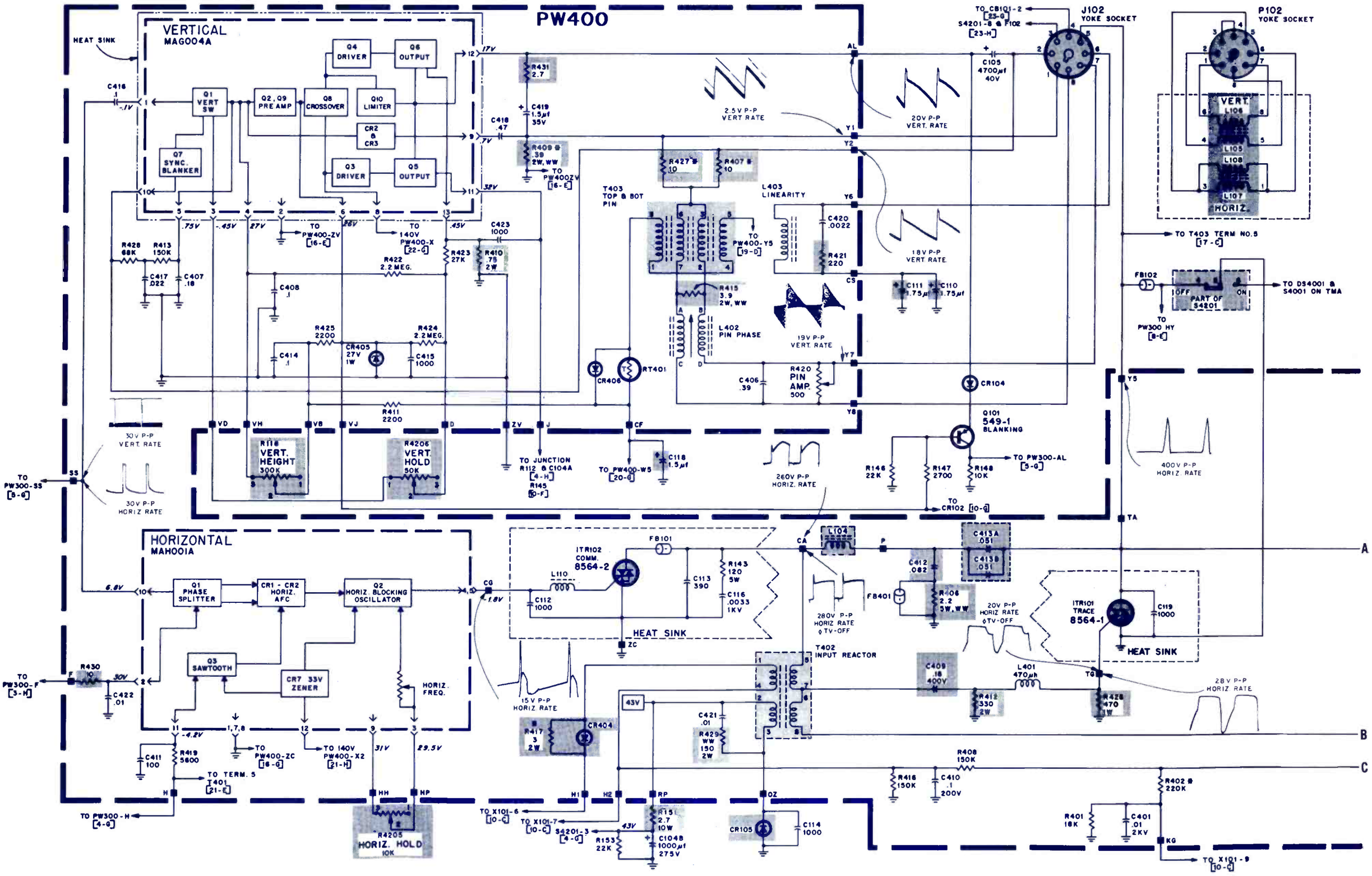

PW400
VERT. MAG 001B
R418, 22K
Q4 SYNC. BLANKER
CR5 ZENER
Q1 VERT. SW
Q2 VERT. PREAMP
Q3 VERT. DRIVER
Q101 637-1 VERT. OUT
HEAT SINK
Q102 638-1 VERT. OUT
CR104
TO +77V [19G]
R118 .47 2W
R119 .47 2W
R417 560
PW300-AL [5G]
77V [19G]
.5V
R202C 50K VERT. HOLD
R220 47K
R221 3 2W
R218 680K
R219 2.2 MEG
R203A 100K VERT HT
PART OF PW200
S201 TERM 8 [9F]
TO S103 GND. [20G]
4-12V
30V P-P VERT RATE
52V P-P VERT. RATE
2V P-P VERT. RATE
TO PW300-SS [4G]
30V P-P HORIZ. RATE
10V P-P HORIZ. RATE
HORIZ. OSC. MAH 004A
L404 3.8µh
-1.4V
HEAT SINK
Q401 HORIZ. OUTPUT 649-1
CR101 DAMPER
FB102
C108 .0116 1200V
TO PW400-H [17E]
Q1 HORIZ. AFC
Q2,Q3,Q4 HORIZ. OSC
Q5 HORIZ. DRIVER
Q6 HORIZ. DISABLE
R404 100K
R401 750
R405 4700
CR405
C414 100
R407 18K
Q404 3679 ERROR AMP
CR406 5.5V
R406 22K 1W
R410 33K
R408 33K
R423 270
Q402 3601 CURRENT LIMITER
R421 1K
R422 68K
CR404
R427 240
Q403 555-3 REG. DRIVER
165V [19F]
Q103 647-1 REG. OUTPUT
HEAT SINK
CR401
R109 300 22W
160V [19F]
R127 .3 3W
FB103
FB104
C105 50µf 200V
120V REG.
C113 100 2KV
CR106
L102 5.6µh
R104 120 1W
C413 .1
C112 .01 2KV
R111 220K
R108 150K
+ 880V
TO PW200-D [11F]
TO 220V [19F]
R426 3K
R425 1500
R424 4700
TP1
TP2
TO T401 TERM 9 [18F]
24V P-P HORIZ RATE
C402 33
R403 120K
T401 TERM. 11 [18F]
R402 820 3W
14V P-P HORIZ RATE
R117 15K 5W
TO 220V [19F]
R420S 25K
HORIZ. HOLD
C409 470µf 75V
R416 820
C408 27
R414 120
R415 120
50V P-P VERT RATE
L401 PIN PHASE
T402 SIDE PIN
T403 TOP & BOTTOM PIN
R413 150
R412 10K 3W
C406 15µf 10V
R411 47
C405 .55 200V
L405 LIN.
CR402
C407 .082 200
C110 .022
R419 PIN AMP 8K
6800
1200
J105 CONV.
J104 YOKE
TO S102B TERM. 2 [22F]
[22F] TO CB101
SG101
55V P-P VERT RATE
35 V P-P HORIZ RATE
PW300-H PW200-S [4G] [9F]
PW300-C4 [2G]
6.2V P-P HORIZ RATE
R420 1K
C403 1000
T401
[2H] R424
C401 .01
C411 .01
C412 .01
L402
C410 1.5µf
R409 10 5W
TO C402 & R403 [13G]
TO PW300-D [7E]
440V P-P (AC COUPLED) HORIZ RATE


PW800
P105 CONV.
P104 YOKE
3V P-P VERT RATE
HORIZ RATE 160V P-P
50V P-P VERT RATE
VERT RATE 45V P-P
WHT/RED
RED
BLK
GRN
BRN
WHT
YEL
YOKE
L106
CR812
R823 470
R801 TOP R/G VERT 20 1W
R802 BOT R/G VERT 10 1W
R818 220
CR801
C801 680
R810# 5.1
C809 680
CR809
CR806
C811 680
C810 680
R819 33
CR807
R803 TOP R/G HORIZ 30 1W
R804 BOT R/G HORIZ 30 1W
C814 680
C815 680
R820 33
CR811
CR810
R811 100
R812 100
C803 680
CR803
R805 TOP BLU HORIZ 90 1W
R806 BOT BLU HORIZ 90 1W
C802
CR802
RED L807
GRN L806
BLU L805
GRN/BLK
GRN/YEL
GRN/WHT
BLU/BLK
BLU/WHT
BLU/YEL
BLU
R816# 47 1W
R815 100 1W
C812 .15
R809 LFT R/G VERT 60,3W
C813 680
C816 680
R817 100 1W
R808 LFT R/G HORIZ 60 3W
C817 .1
L804 RT R/G HORIZ
L803 RT R/G VERT
L801 RT BLU HORIZ
C808 .082
C805 .082
L802 120UH
C804 .27
R813## 180
C806 .1
R814 270 1W
R807 LFT BLU HORIZ 120, 3W
C807 680
CR805
CR808
CR804
TO PICTURE TUBE ULTOR ANODE 26KV (26.5KV MEASURED WITH ELECTROSTATIC METER)
H
IN
OUT
DC
F
SILICON TRIPLER STM101
[10B] TO X106-9
R110 FOCUS 10 MEG.
R126 5 MEG.
R124 8.3 MEG
R125 17 MEG
R115 1K 2W
[7G] TO PW300-B
C109 .01 2KV
SG102
+220V
+165V
+160V
+77V
TO PW400-Z2 [12B]
+36V
+30V
TO PW300-F
+29V
YEL/RED
RED
WHT/ORN
ORN
WHT/ORN
C103B 100µf 250V
C103A 100µf 250V
C105B 200µf 200V
R103 15 7W
C105A 500µf 200V
C103C 750µf 100V
R102# 30, 5W
C104B 1500µf 40V
R112# 100 5W
R128 680 2W
C104C 500µf 40V
C104A 750µf 50V
J102-3
J102-2
J102-7
J102-14
MAB002A POWER SUPPLY
R1## 100 2W
C1 1000
CR1
CR6
CR3
CR5
CR2
CR4
R4# 820 1W
RT1
J102-1
J102-4
J102-15
J102-12
J102-13
J102-5
J102-10
J102-11
J101
P101
L103 DEGAUSSING COIL
TO PICTURE TUBE FILAMENT V101
RED/YEL
T101
GRN/RED
YEL
BLK/RED
RED
BLK
BRN
T104
BRN/WHT
WHT/BRN
WHT/BLK
S102A
S102B
HIGH
NORMAL
RT101
YEL/GRN
J/P103-4
J/P103-7
S4201 "ON - OFF"
[16B] TO J105-2
[16B] TO J104-4
CB101
F101 7AMP
C101 .047
S104 INTERLOCK
L101
120 VAC 60Hz
P103
P106
WIRE END
WIRE END VIEW
J103
J106
J102
KEY
NOTES
1. RESISTANCE VALUES ARE IN OHMS K=1000.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN µf, LESS THAN 1.0 ARE IN µµf, 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 SHOULD HAVE A POSITIVE POTENTIAL UNLESS OTHERWISE SPECIFIED.
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.


PW300
SPEAKER
PART OF S4213
32 ohm IMPEDENCE
TO PW300-Z1 [1F]
R4201 VOLUME 40K
"ON"
"OFF"
P4001-9
P4001-8
P4001-7
R4011 150
R129 500
COLOR LEVEL
R4005 1000
COLOR
TO +26V [4-H]
R323 3000 *
R349 3300 **
SOUND
PM 200
MAA001A
AUDIO PREAMP
4.5 MHz IF
SOUND DEMOD
R345 10K
R342 100
C313 3300
SOUND OUTPUT
MAN 002 A
AUDIO OUTPUT
PREAMP
DRIVER
C314 50µf 25V
R347 820
R311 470 2W
12V TO 16V
TO PW300-F 30V [3-G]
C310 .018
R350 330
R351 3300
TP4
NC
C302 .027
R346 330K
C315 .01
MAC 002 A
CHROMA 1
R1 ACC. CONT.
R7 KILLER THRESH
TP1
TP2
ACC
KILLER
BANDPASS AMP
BURST AMP
3.58 MHz REFERENCE OSC
C8 3.58 OSC. TRIM
ZENER
R352 1500
C307
KEYING PULSE
TO PW 300F [3-G] +30V
A
B
C
D
TO TUNER MOUNTING ASSEMBLY A.F.T.
TO C23 ON TUNER
TO C24 ON TUNER
WHT
BRAID
RED
W101
P101
TO J1 VHF TUNER OUTPUT
TO SPEAKER [3 A]
PIX IF & AFT
MAK 0018
4.5 MHz AMP
SOUND DET
SOUND IF AMP
I.F. AMPLIFIER
AFT
VIDEO DET
VIDEO PREAMPS
AGC KEYER AND AMPLIFIERS
CHROMA
R318 10K
R327 2700
330
CR305
CR306
TP5
TP6
R325 4700
C306 820
C312 .01
R326 680
C311 2700
VIDEO SYNC MAL0018
DELAY LINE
Q3 1ST VIDEO
HORIZ. BLANKING PULSE
Q4 2ND VIDEO
Q1 SYNC SEPERATOR
PEAKING
VERT. BLANKING
CONTRAST
R324 2200
VIDEO
TO PW 300N +15V [3G]
TO PW 300-F 30V [3G]
R310 12K
TO PW 300 N +15V [3G]
R306 100K
R303 180K
R304 1.5 MEG.
R302 470K
TO R4001 TUNER AGC
GRN
R132 3300
C115 .12
CR308
CR302
CR301
R307 4700
C301 .01
R353 120K
R308 2200
TO PW 300N +15V [3H]
R305 27K
TO R329 [7F]
FB302
R317 47
RT301 50K
FB301
CR303 15V
R309 270 2W
C316 330
C317 1000
R328 680
C117 1000
R104 AGC DELAY 25K
+15V
30V
TO PW400-NP [21-F]
TO S102-4 [10-F]
PART OF S4201
TO C1048 [6-H]
R151 [6-H]
R14 68 5W
R113 120 5W
C103A 500µf 40V
C103B 500µf 40V
R124 270 5W
26V
R112 18 7W
C104A 1000µf 75V
TO PW400-J [6-E]
TO PW400H [13-H]
TO R152 [10-E]
TO PW 400 SS [13-E]
TO R148 [8-E]
R135 100
R136 560
TO PW 300N +15V [3-H]
PART OF S 4213
"OFF"
"ON"
P4001-19
P4001-20
P4001-21
R127 CONTRAST LEVEL 500
E
F
G
H
I
J
K
L



RCA CORP.
Color-TV Chassis
CTC62


PW400
VERTICAL
MAG004A
HEAT SINK
Q4 DRIVER
Q6 OUTPUT
Q1 VERT SW
Q2, Q9 PRE AMP
Q8 CROSSOVER
Q10 LIMITER
CR2 & CR3
Q7 SYNC. BLANKER
Q3 DRIVER
Q5 OUTPUT
C416 .1
R428 68K
R413 150K
C417 .022
C407 .18
C408 .1
R425 2200
R424 2.2 MEG.
C414 .1
CR405 27V 1W
C415 1000
R422 2.2 MEG.
R423 27K
R410 .75 2W
C423 1000
R411 2200
R431 2.7
C419 1.5µf 35V
C418 .47
R409 .39 2W, WW
TO PW400ZV [16-E]
TO PW400-ZV [16-E]
TO 140V PW400-X [22-G]
2.5V P-P VERT RATE
20V P-P VERT. RATE
18V P-P VERT RATE
19V P-P VERT. RATE
R427 10
R407 10
T403 TOP & BOT PIN
TO PW400-Y5 [19-D]
L403 LINEARITY
C420 .0022
R421 220
C111 1.75µf
C110 1.75µf
R415 3.9 2W, WW
L402 PIN PHASE
R420 PIN AMP. 500
C406 .39
CR406
RT401
R406 2.2 5W, WW
CR104
Q101 549-1 BLANKING
R146 22K
R147 2700
R148 10K
TO PW300-AL [5-G]
TO CR102 [10-G]
TO CB101-2 [23-G]
S4201-8 & P102 [23-H]
C105 4700µf 40V
J102 YOKE SOCKET
P102 YOKE SOCKET
VERT. L106
L105
L108
L107
HORIZ.
TO T403 TERM NO.8 [17-C]
FB102
OFF
PART OF S4201
ON
TO DS4001 & S4001 ON TMA
TO PW300 HY [8-E]
400V P-P HORIZ. RATE
30V P-P VERT. RATE
30V P-P HORIZ RATE
TO PW300-SS [8-G]
R118 VERT. HEIGHT 300K
R4206 VERT. HOLD 50K
TO JUNCTION R112 & C104A [4-H]
R145 [8-F]
TO PW400-W5 [20-G]
C118 1.5µf
260V P-P HORIZ. RATE
HORIZONTAL
MAH00IA
Q1 PHASE SPLITTER
CR1 - CR2 HORIZ. AFC
Q2 HORIZ. BLOCKING OSCILLATOR
Q3 SAWTOOTH
CR7 33V ZENER
HORIZ. FREQ.
R430 10
C422 .01
TO PW300-F [3-H]
C411 100
R419 5600
TO TERM. 5 T401 [21-E]
TO PW300-H [4-G]
TO PW400-ZC [16-G]
TO 140V PW400-X2 [21-H]
R4205 HORIZ. HOLD 10K
ITR102 COMM. 8564-2
FB101
L110
C112 1000
C113 390
R143 120 5W
C116 .0033 1KV
HEAT SINK
15V P-P HORIZ RATE
CR404
R417 3 2W
43V
C421 .01
R429 WW 150 2W
T402 INPUT REACTOR
280V P-P HORIZ RATE ◊TV-OFF
FB401
L104
C412 .082
C413A .051
C413B .051
20V P-P HORIZ RATE ◊TV-OFF
ITR101 TRACE 8564-1
C119 1000
HEAT SINK
C409 18 400V
L401 470µh
R412 330 2W
R426 470 1W
28V P-P HORIZ RATE
R408 150K
R416 150K
C410 .1 200V
R402 220K
R401 18K
C401 .01 2KV
TO X101-9 [10-C]
TO X101-6 [10-C]
TO X101-7 [10-C]
S4201-3 [4-G]
R151 2.7 10W
R153 22K
C104B 1000µf 275V
CR105
C114 1000
A
B
C

NOTES:

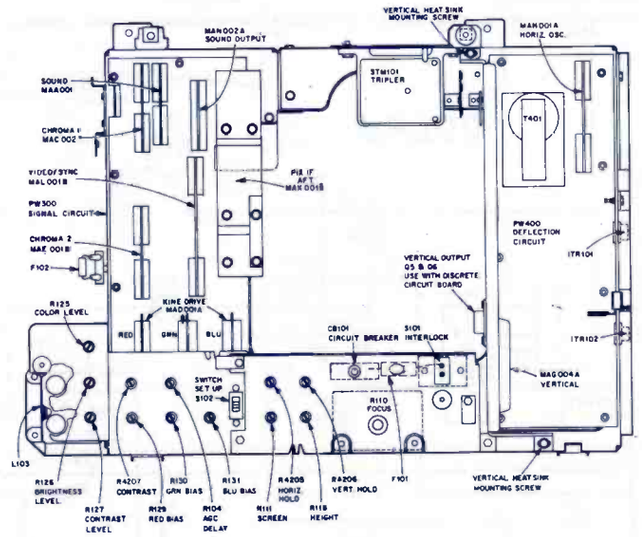
1. RESISTANCE VALUES ARE IN OHMS K=1000.
2. CAPACITANCE VALUES 1.0 AND ABOVE ARE IN pf, LESS THAN 1.0 ARE IN μf, UNLESS OTHERWISE SPECIFIED.
3. ± INDICATES 5% TOLERANCE.
4. ±± INDICATES 2% TOLERANCE.
5. VOLTAGES ARE MEASURED TO CHASSIS GROUND WITH A "VOLTOHMYST" (NO SIGNAL APPLIED) AND SHOULD HOLD WITHIN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

◊ ON/OFF SWITCH (S4201) IN OFF POSITION.

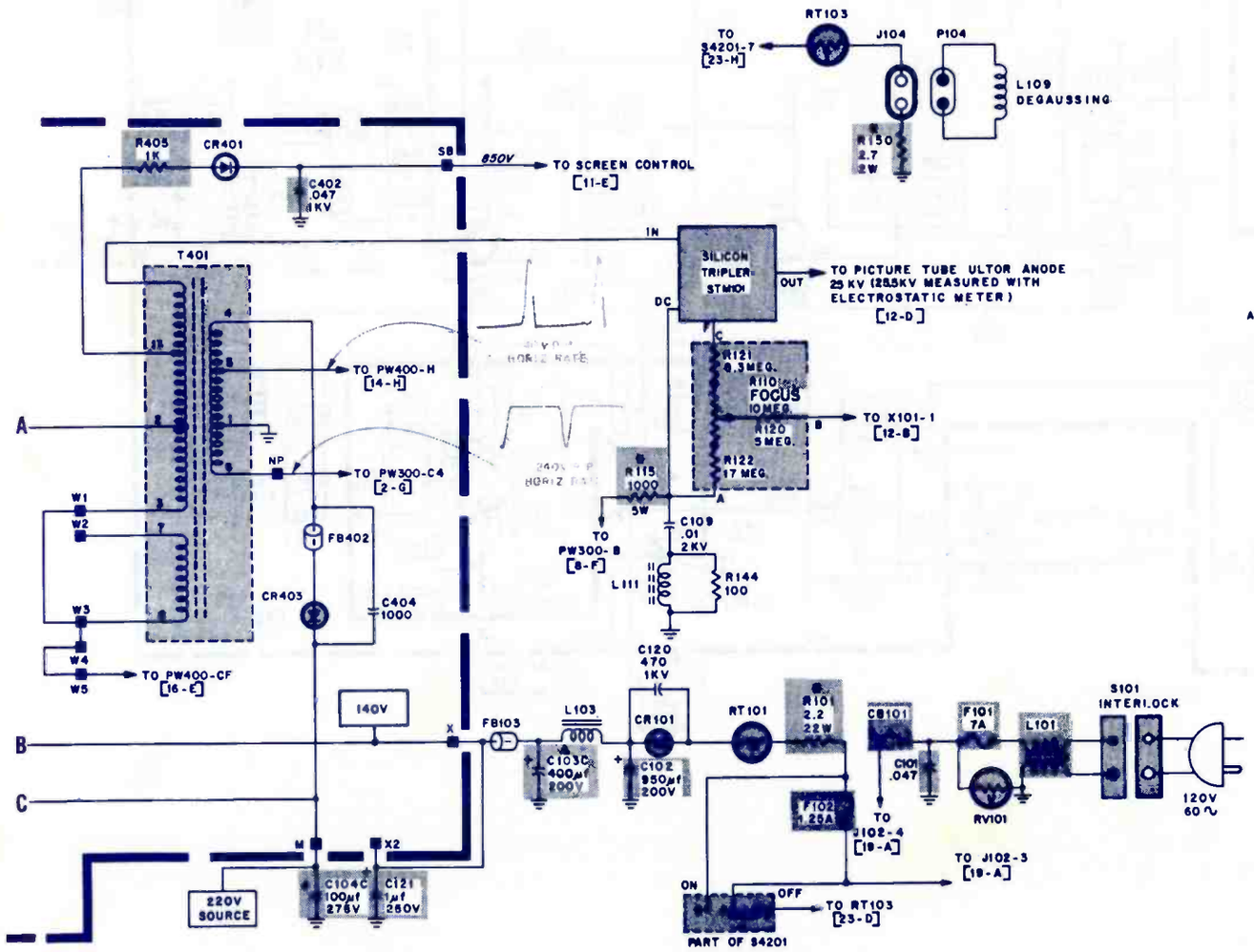
PRODUCT SAFETY NOTE

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.

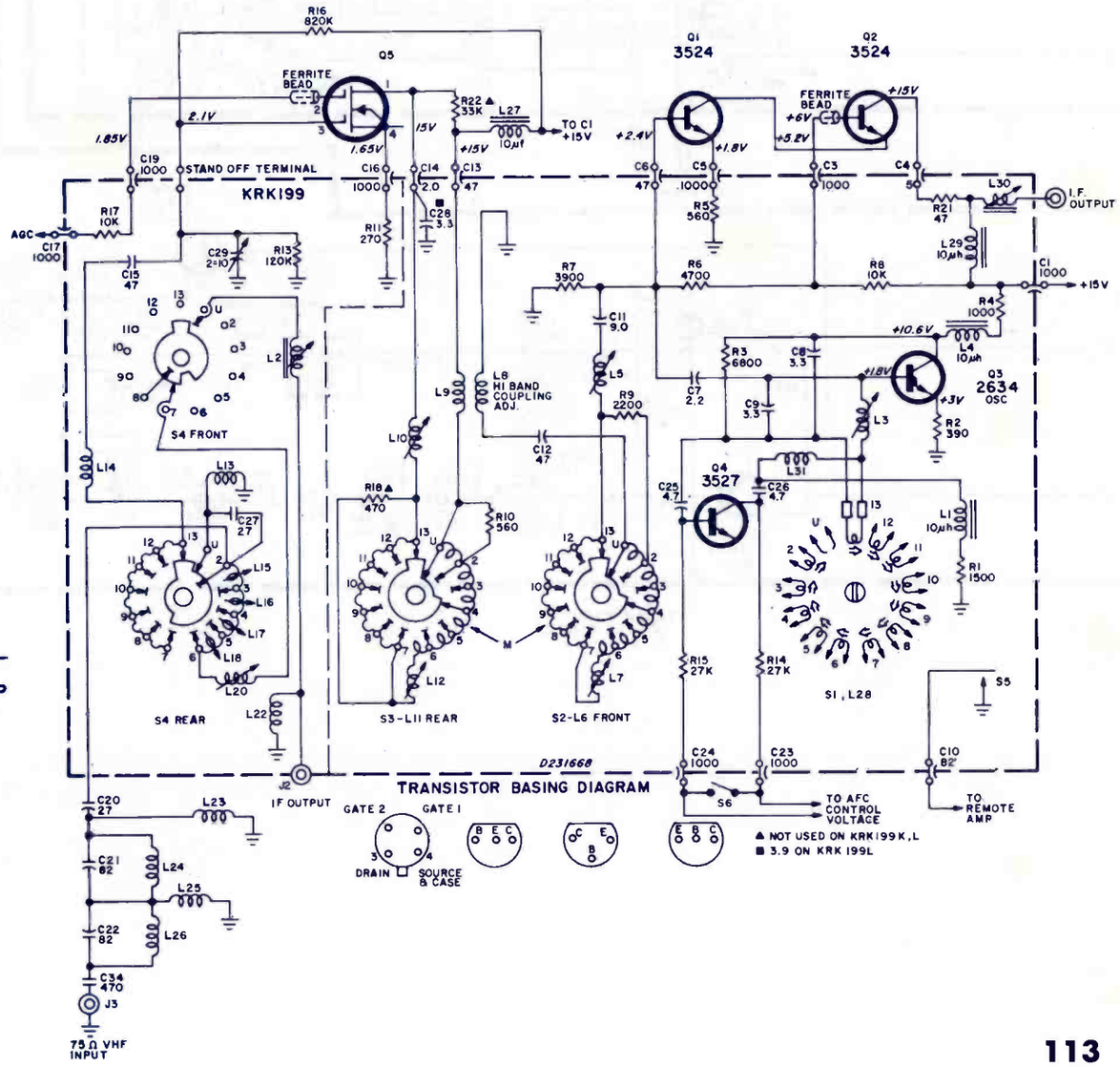
CHASSIS LAYOUT



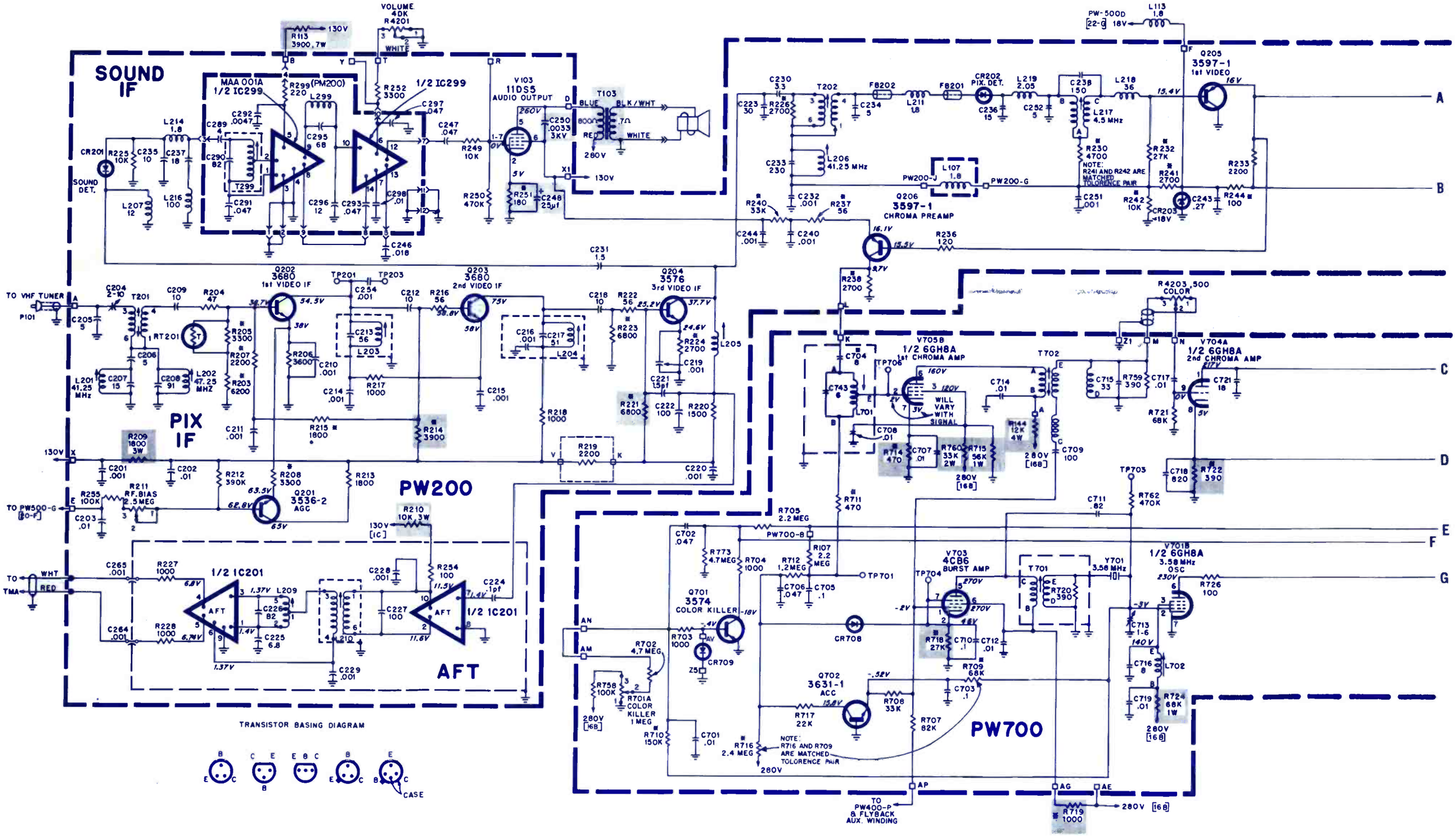
SYMBOL	DESCRIPTION	RCA PART NO.
C103	3 section elect	138011
C104	3 section elect	138012
CB101	breaker—circuit	138017
1TR101	thyristor	138032
1TR102	thyristor	138033
R104	control noise	138021
R110	control focus	135696
R118	control vert height	138026
R125	control, color level	138156
R126	control, brite level	138155
R127	control, contrast level	138154
R4205	control horiz hold	138027
R4206	control vert hold	138025
R4207	control contrast	138020
RT301	therm	116109
RT401	therm	137240
T401	xformer, high voltage	138164
1C299	circuit—integ	130751
L299	coil discrim	130121
T299	xformer sound	130120
R1	control ACC adj	132170
R7	control killer	132170
L1	coil	132137
L2	coil	132821
L4	coil	136692
L2	coil	126834
R15	control horiz adj	132170
T1	xformer driver	126729
L7	chroma take-off	132136
T1	xformer trap	132839
T2	xformer trap	132157

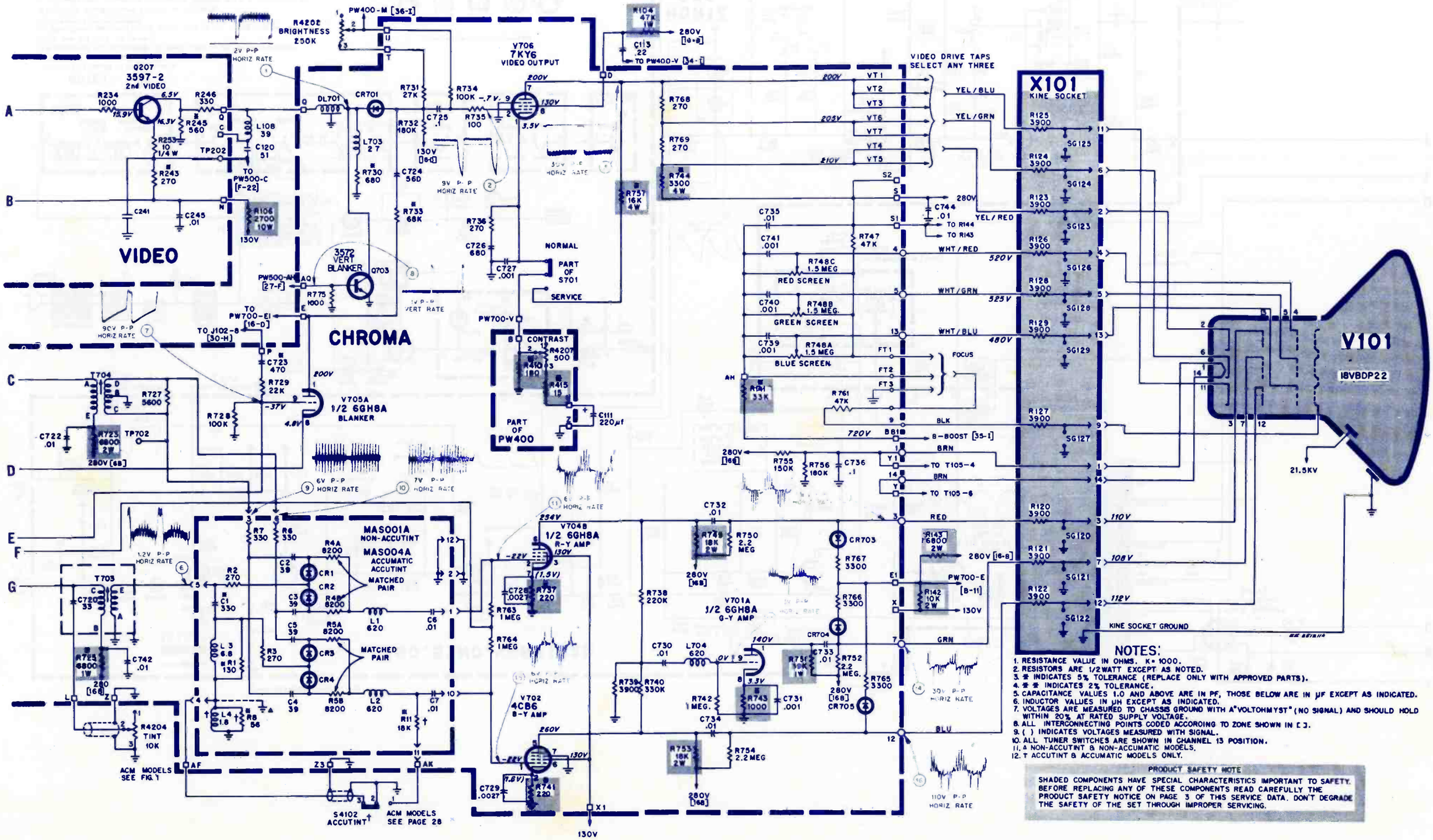


KRK 199, KRK 207 TUNER SCHEMATIC



RCA CORP.
Color-TV Chassis
CTC62


SOUND IF
PIX IF
PW200
AFT
PW700
MAA 001A 1/2 IC299
1/2 IC299
1/2 IC201
VOLUME 4DK R4201
R113 3900, 7W
130V
WHITE
R299 (PM200) 220
R252 3300
L299
C297 .047
C292 .0047
C289 4
C295 68
C290 82
T299
C291 .047
C296 12
C293 .047
C298 .01
C246 .018
C247 .047
R249 10K
V103 11DS5 AUDIO OUTPUT
260V
C250 .0033 3KV
T103
BLUE
BLK/WHT
8000
.7Ω
RED
WHITE
260V
X1
130V
R250 470K
R251 180
C248 25µf
5V
0V
L214 1.8
CR201
R225 10K
C235 10
C237 18
SOUND DET.
L207 12
L216 100
C265 .001
R227 1000
C264 .001
R228 1000
6.8V
1.37V
L209
C226 82
C225 6.8
1.4V
6.74V
C210 .001
C229 .001
R254 100
11.5V
C224 .1pf
11.6V
C228 .001
C227 100
L210
C231 1.5
Q202 3680 1st VIDEO IF
Q203 3680 2nd VIDEO IF
Q204 3576 3rd VIDEO IF
TP201
TP203
C254 .001
C212 10
R216 56
C218 10
R222 56
C213 56
L203
C216 .001
C217 51
L204
C221 1.5pf
C222 100
R220 1500
R221 6800
R223 6800
R224 2700
C219 .001
L205
C215 .001
R217 1000
R218 1000
R214 3900
R215 1800
C211 .001
R219 2200
C220 .001
54.5V
38V
75V
58V
37.7V
24.6V
25.2V
C204 2-10
T201
C209 10
R204 47
RT201
R205 3300
R207 2200
R203 6200
R206 3600
C205 5
C206 5
C207 15
C208 91
L201 41.25 MHz
L202 47.25 MHz
TO VHF TUNER
P101
R209 1800 3W
C201 .001
C202 .01
R212 390K
R208 3300
R213 1800
63.5V
62.8V
65V
Q201 3536-2 AGC
R211 RF. BIAS 2.5 MEG
R255 100K
C203 .01
TO PW500-G [80-F]
R210 10K 3W
130V [1C]
TO TMA
WHT
RED
AFT
R705 2.2 MEG
PW700-B
C702 .047
R773 4.7 MEG
R704 1000
R712 1.2 MEG
R107 2.2 MEG
TP701
C706 .047
C705 .1
Q701 3574 COLOR KILLER
-18V
-4V
R703 1000
CR709
Z5
CR708
R702 4.7 MEG
R758 100K
R701A COLOR KILLER 1 MEG
280V [168]
R710 150K
C701 .01
R716 2.4 MEG
NOTE: R716 AND R709 ARE MATCHED TOLORENCE PAIR
Q702 3631-1 ACC
-.52V
15.8V
R717 22K
R708 33K
R707 82K
C703 .1
V703 4CB6 BURST AMP
TP704
270V
-2V
1.6V
R718 27K
C710 .1
C712 .01
R709 68K
T701
Y701 3.58 MHz
R720 390
V701B 1/2 6GH8A 3.58 MHz OSC
230V
R726 100
-3V
C713 1-6
140V
C716 8
L702
C719 .01
R724 68K 1W
280V [168]
TP703
R762 470K
C711 .82
R722 390
C718 820
C721 18
R721 68K
V704A 1/2 6GH8A 2nd CHROMA AMP
47V
0V
5V
R4203, 500 COLOR
C715 33
R759 390
C717 .01
T702
V705B 1/2 6GH8A 1st CHROMA AMP
TP706
160V
120V
WILL VARY WITH SIGNAL
C714 .01
2V
3V
C704 6
C743 6
L701
C708 .01
R714 470
C707 .01
R760 33K 2W
R715 56K 1W
R144 12K 4W
280V [168]
C709 100
R711 470
TO PW400-P & FLYBACK AUX. WINDING
AP
AG
AE
280V [168]
R719 1000
PW-500D 22-G 18V
L113 1.8
Q205 3597-1 1st VIDEO
16V
15.4V
C230 33
R226 2700
C223 30
T202
C234 5
F8202
L211 1.8
F8201
CR202 PIX. DET.
C236 15
L219 2.05
C252 5
C238 150
L218 36
L217 4.5 MHz
R230 4700
NOTE: R241 AND R242 ARE MATCHED TOLORENCE PAIR
R232 27K
R241 2700
R242 10K
CR203 +18V
C243 .27
R233 2200
R244 100
C251 .001
L206 41.25 MHz
C233 230
PW200-J
L107 1.8
PW200-G
C232 .001
R237 56
R240 33K
C244 .001
C240 .001
Q206 3597-1 CHROMA PREAMP
16.1V
15.5V
R236 120
R238 2700
4.7V
A
B
C
D
E
F
G
TRANSISTOR BASING DIAGRAM
CASE



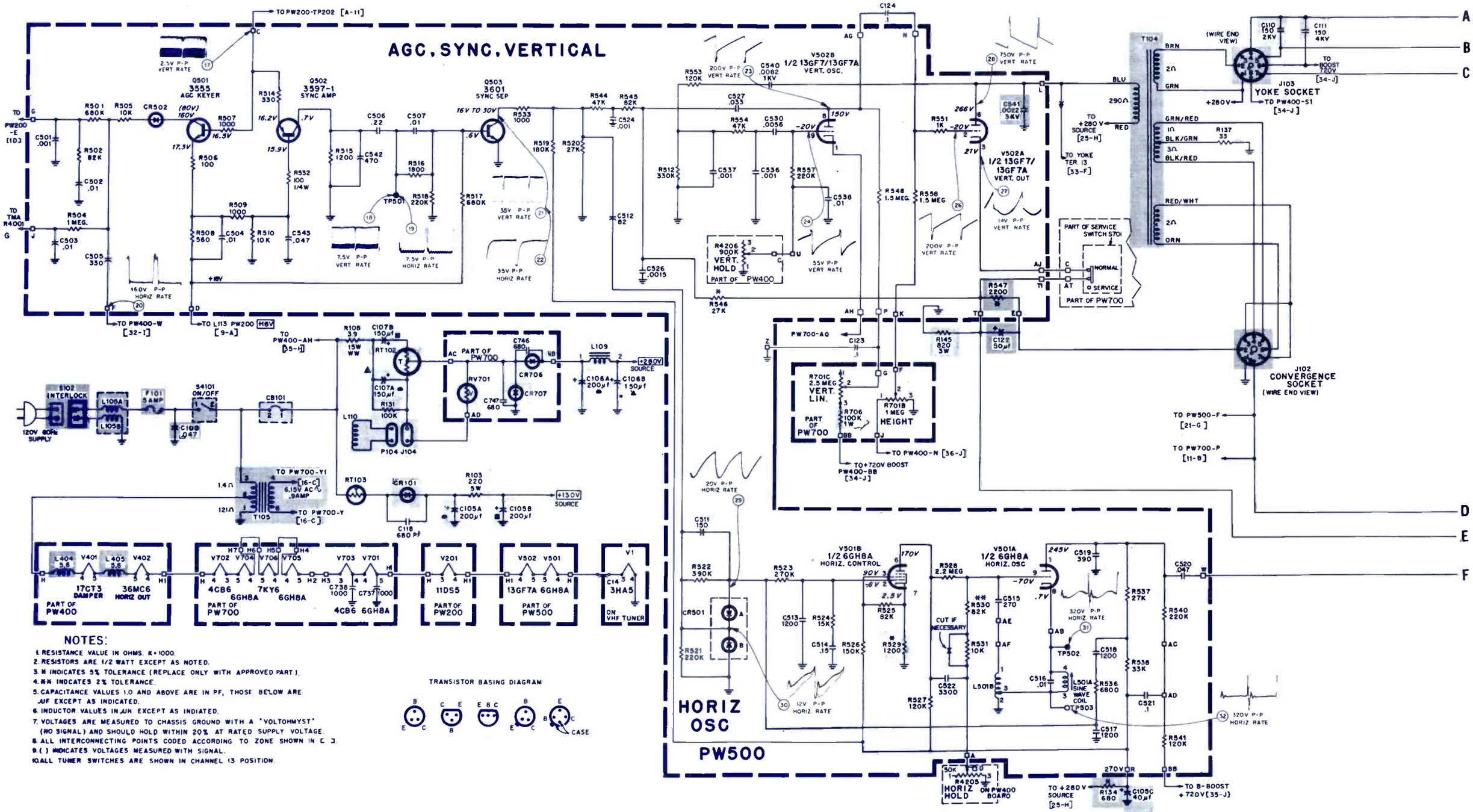
NOTES:

1. RESISTANCE VALUE IN OHMS. K = 1000.
2. RESISTORS ARE 1/2 WATT EXCEPT AS NOTED.
3. * INDICATES 5% TOLERANCE (REPLACE ONLY WITH APPROVED 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. A NON-ACCUTINT & NON-ACCUMATIC MODELS.
12. T ACCUTINT & ACCUMATIC MODELS ONLY.

PRODUCT SAFETY NOTE

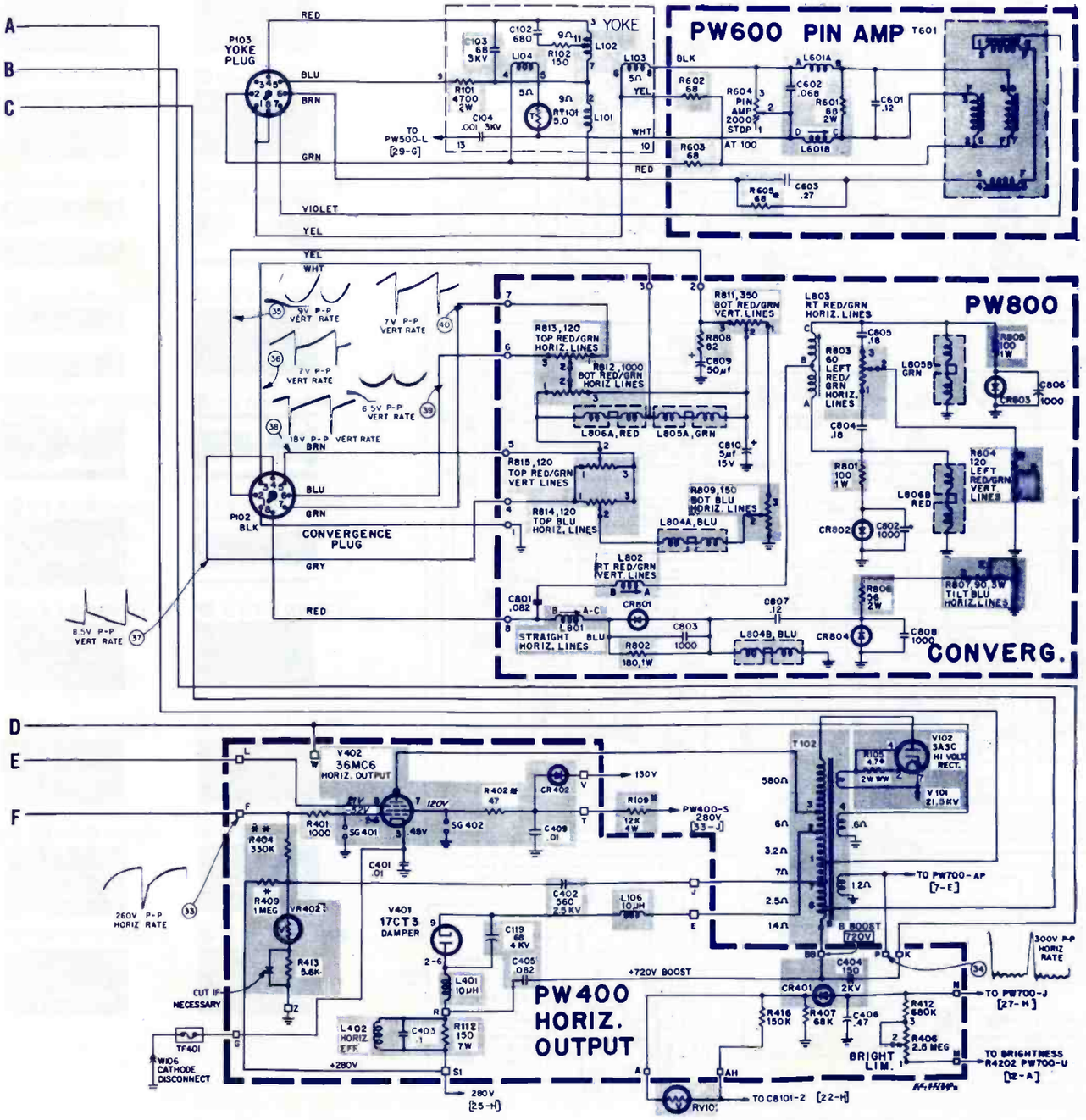
SHADED COMPONENTS HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE ON PAGE 3 OF THIS SERVICE DATA. DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

RCA CORP
CTC 53 Series

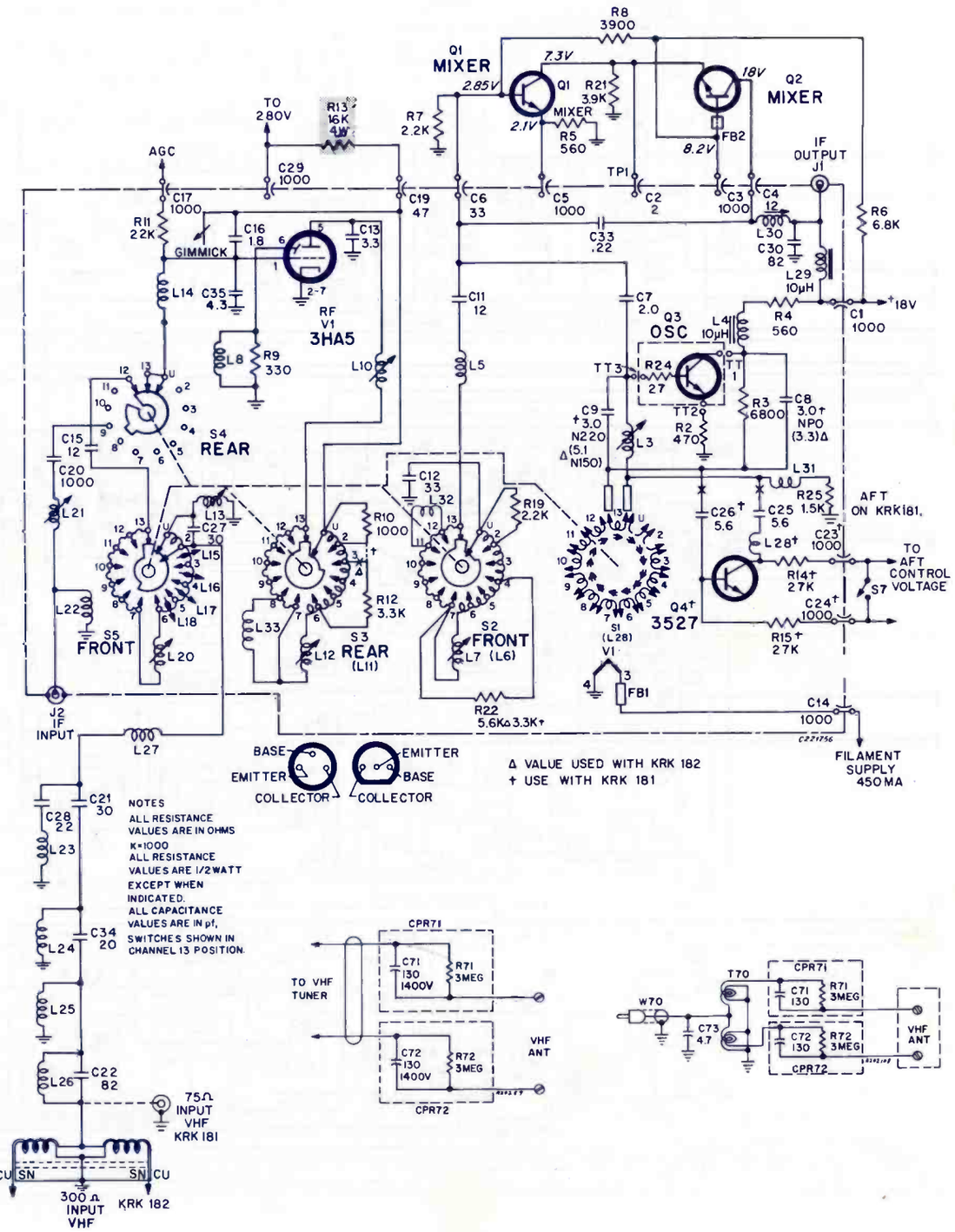


NOTES:

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 .UF EXCEPT AS INDICATED.
6. INDUCTOR VALUES IN UH 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.

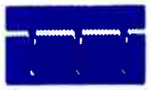


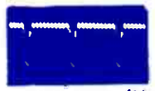
VHF TUNER SCHEMATIC DIAGRAM



SONY
Color-TV Model
KV-1722


❶ 3.5 V p-p (Horiz.)

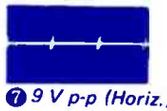

❷ 3.5 V p-p (Horiz.)


❸ 3.5 V p-p (Horiz.)


❹ 3.5 V p-p (Horiz.)

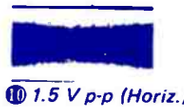

❺ 1.5 V p-p (Horiz.)


❻ 14 V p-p (Horiz.)


❼ 9 V p-p (Horiz.)


❽ 6 V p-p (Horiz.)

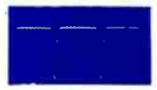

❾ 0.1 V p-p (Horiz.)


❿ 1.5 V p-p (Horiz.)


⓫ 1.3 V p-p (Horiz.)

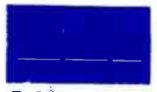

⓬ 1.3 V p-p (Horiz.)

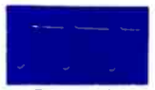

⓭ 2.5 V p-p (Horiz.)

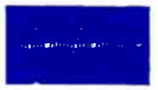

⓮ 1.0 V p-p (Horiz.)

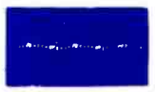

⓯ 5 V p-p (Horiz.)


⓰ 0.8 V p-p (Horiz.)

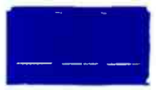

⓱ 3 V p-p (Horiz.)


⓲ 5 V p-p (Horiz.)

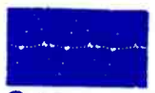

⓳ 0.8 V p-p (Horiz.)


⓴ 2.0 V p-p (Horiz.)


㉑ 2.7 V p-p (Horiz.)


㉒ 10 V p-p (Horiz.)


㉓ 7 V p-p (Horiz.)

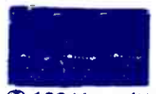

㉔ 2.5 V p-p (Horiz.)

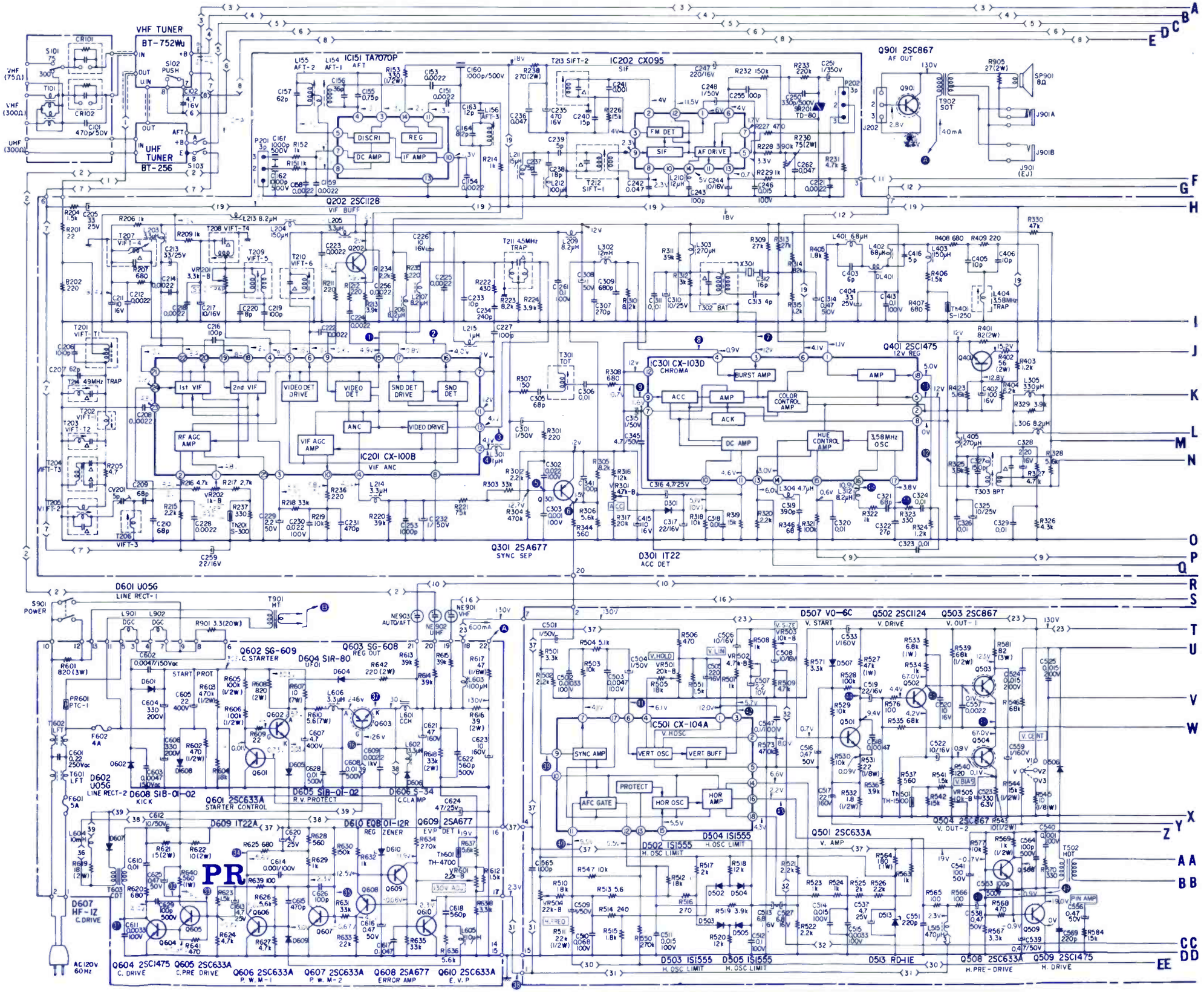

㉕ 2.0 V p-p (Horiz.)


㉖ 0.8 V p-p (Horiz.)


㉘ 110 V p-p (Horiz.)


㉙ 130 V p-p (Horiz.)


㉚ 120 V p-p (Horiz.)





31 50 V p-p (Horiz.)



32 2.5 V p-p (Horiz.)



33 5 V p-p (Horiz.)



34 11.5 V p-p (Horiz.)



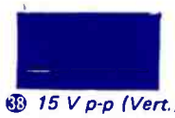
35 10 V p-p (Horiz.)



36 400 V p-p (Horiz.)



37 400 V p-p (Horiz.)



38 15 V p-p (Vert.)



39 14 V p-p (Horiz.)



40 0.9 V p-p (Horiz.)



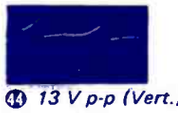
41 1.3 V p-p (Vert.)



42 2.9 V p-p (Vert.)



43 6 V p-p (Horiz.)



44 13 V p-p (Vert.)



45 130 V p-p (Vert.)



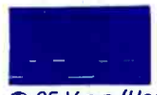
46 130 V p-p (Vert.)



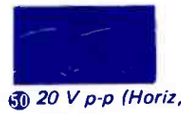
47 6.7 V p-p (Horiz.)



48 6 V p-p (Horiz.)



49 95 V p-p (Horiz,)



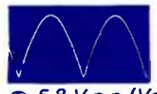
50 20 V p-p (Horiz,)



51 800 V p-p (Horiz.)



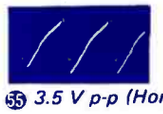
52 4.1 V p-p (Horiz.)



53 5.8 V p-p (Vert.)



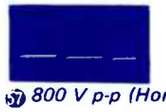
54 28 V p-p (Vert.)



55 3.5 V p-p (Horiz.)

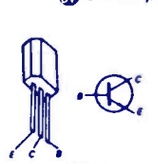


56 18 V p-p (Horiz.)



57 800 V p-p (Horiz.)

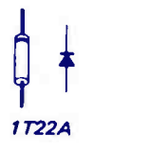
MOUNTING DIAGRAM – PR Board –



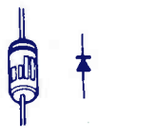
2SC633A



SG-608



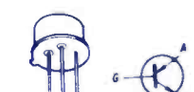
1T22A



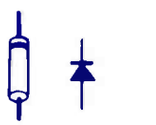
EQB01-12R



2SC1475



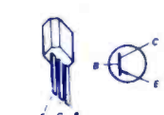
SG-609



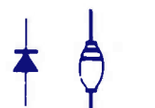
SIB-01-02



S-34



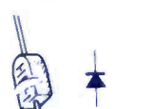
2SA677



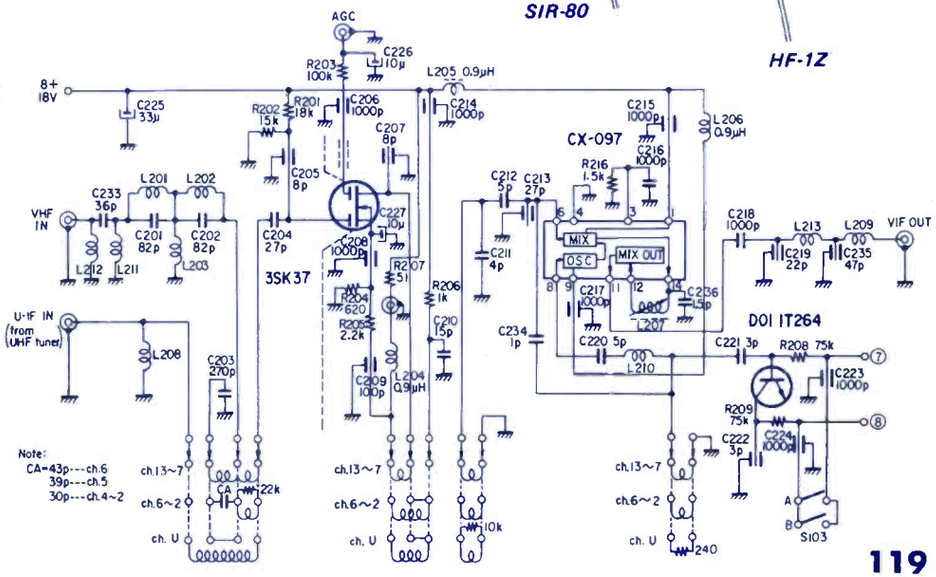
U05G



SIR-80



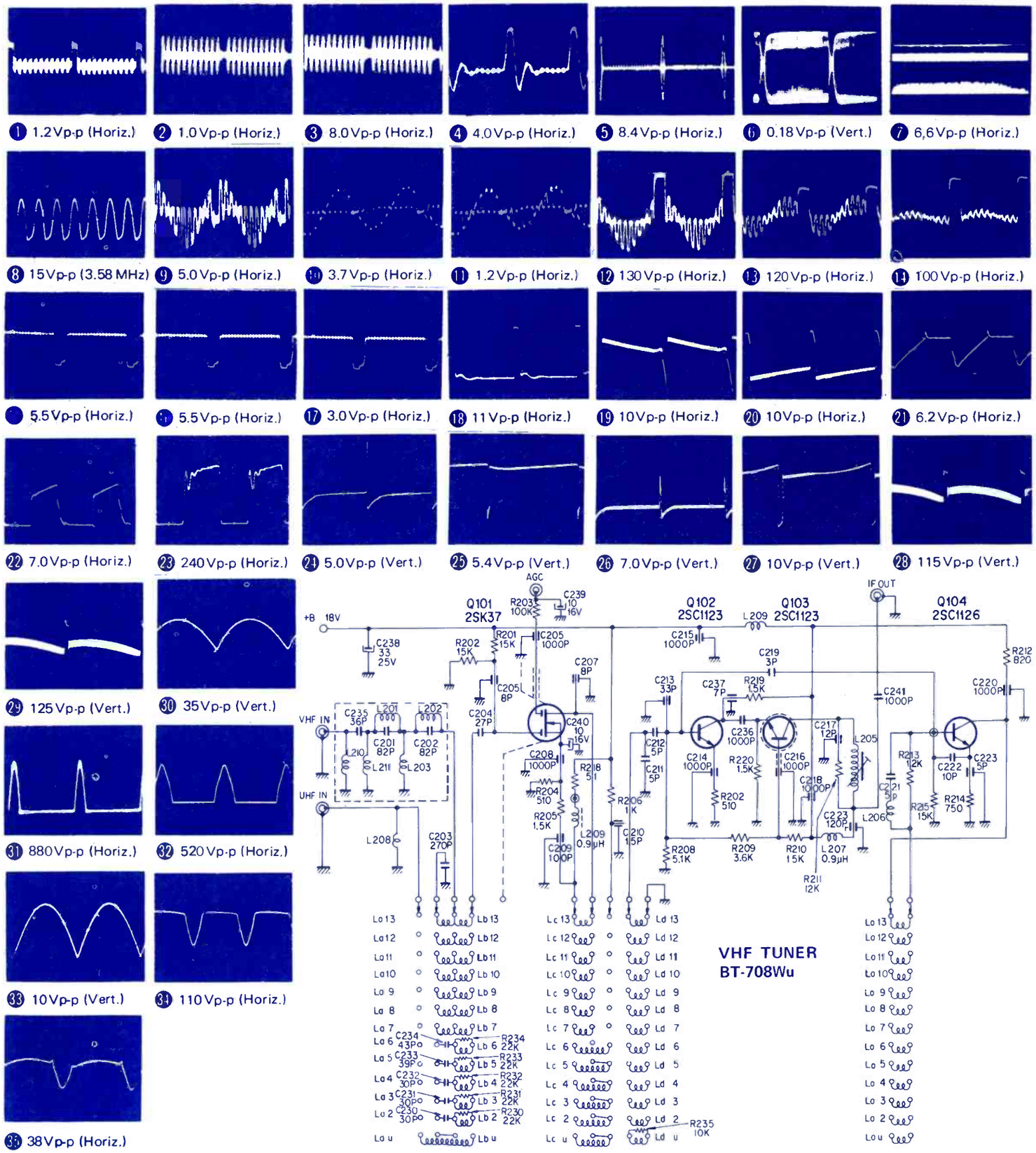
HF-1Z

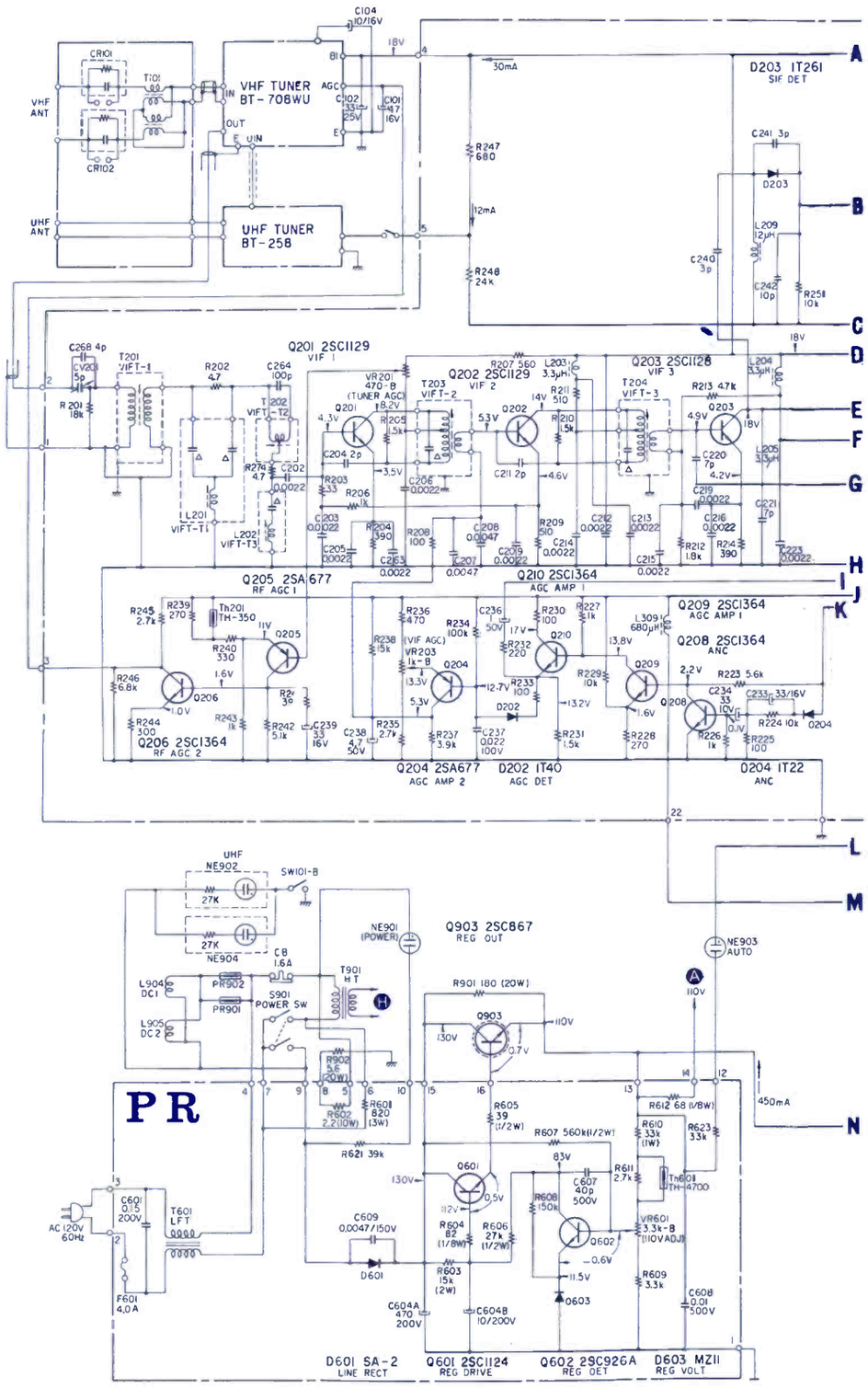


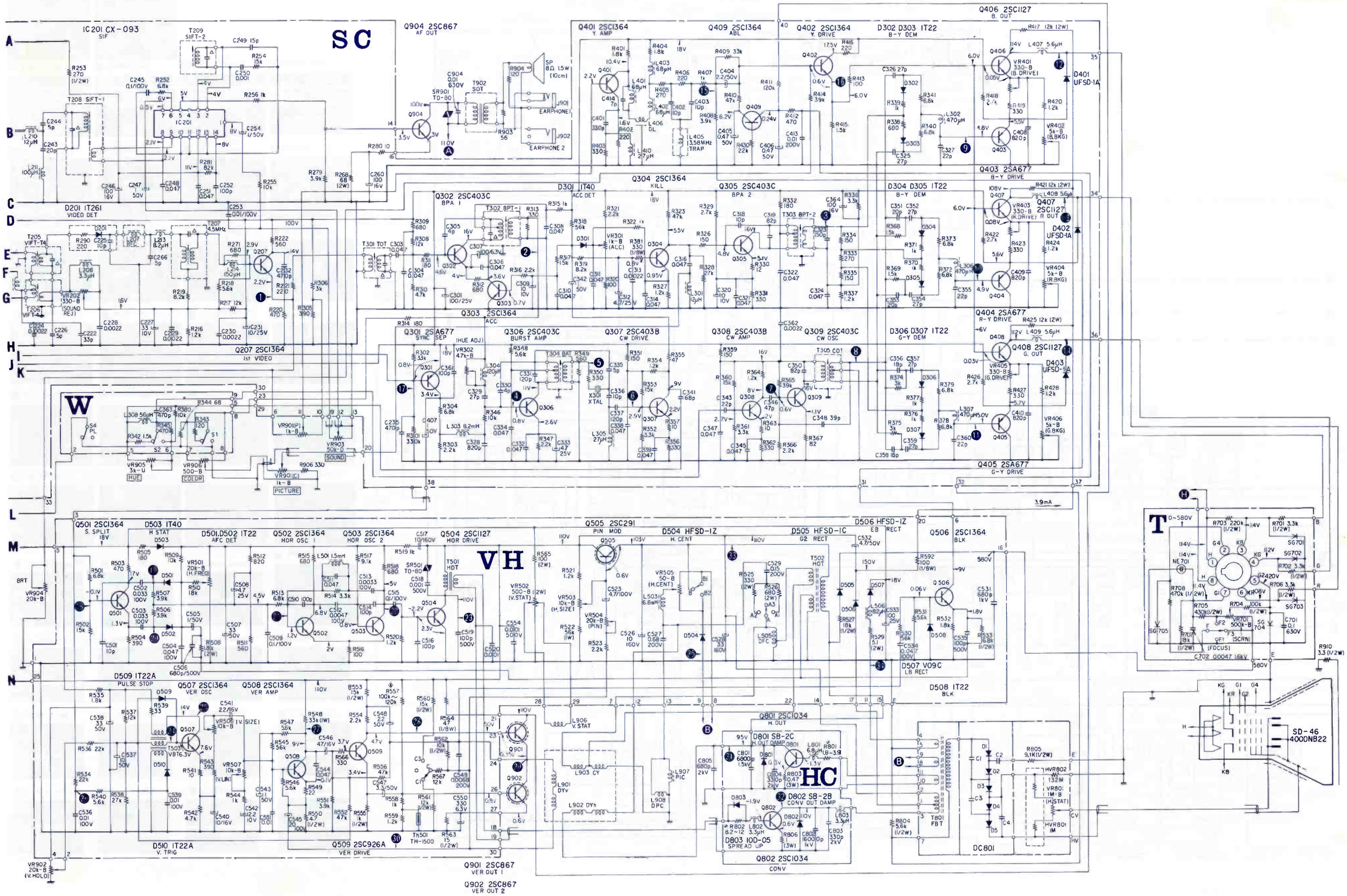
SONY
Color-TV Model
KV-1722

SONY
Color TV Model
KV-1500

SYMBOL	DESCRIPTION	SONY PART NO.
L405	3.58MHz coil wave trap	1-409-193-00
T207	4.5MHz xformer wave trap	1-409-146-00
T304	xformer burst amp	1-405-372-00
T502	xformer horiz output	1-439-113-00
T503	xformer vert osc	1-435-008-00
T801	flyback xformer assembly	1-439-121-00
T902	xformer sound output	1-427-307-00
VR202	330-B sound reject	1-222-515-00
VR301	1 k-B ACC control	1-222-517-00
VR302	4.7k-B hue adjust	1-222-518-00
VR501	20k-B horiz frequency	1-222-725-00
VR503	10k-B horiz size	1-222-512-00
VR505	50-B horiz centering	1-223-017-00
VR506	10k-B vert size	1-222-512-00
VR507	10k-B vert lin	1-222-512-00
VR901	1k-B picture control	1-222-383-00
VR902	20k-B vert hold	1-222-388-00
VR903	50k-D volume control	1-222-686-00
VR904	20k-B brite control	1-222-388-00
VR905	3k-U hue control	1-222-387-00
VR906	500-B color control	1-222-386-00
	deflect yoke	1-451-081-00
CB	1.6a circuit breaker	1-515-168-00

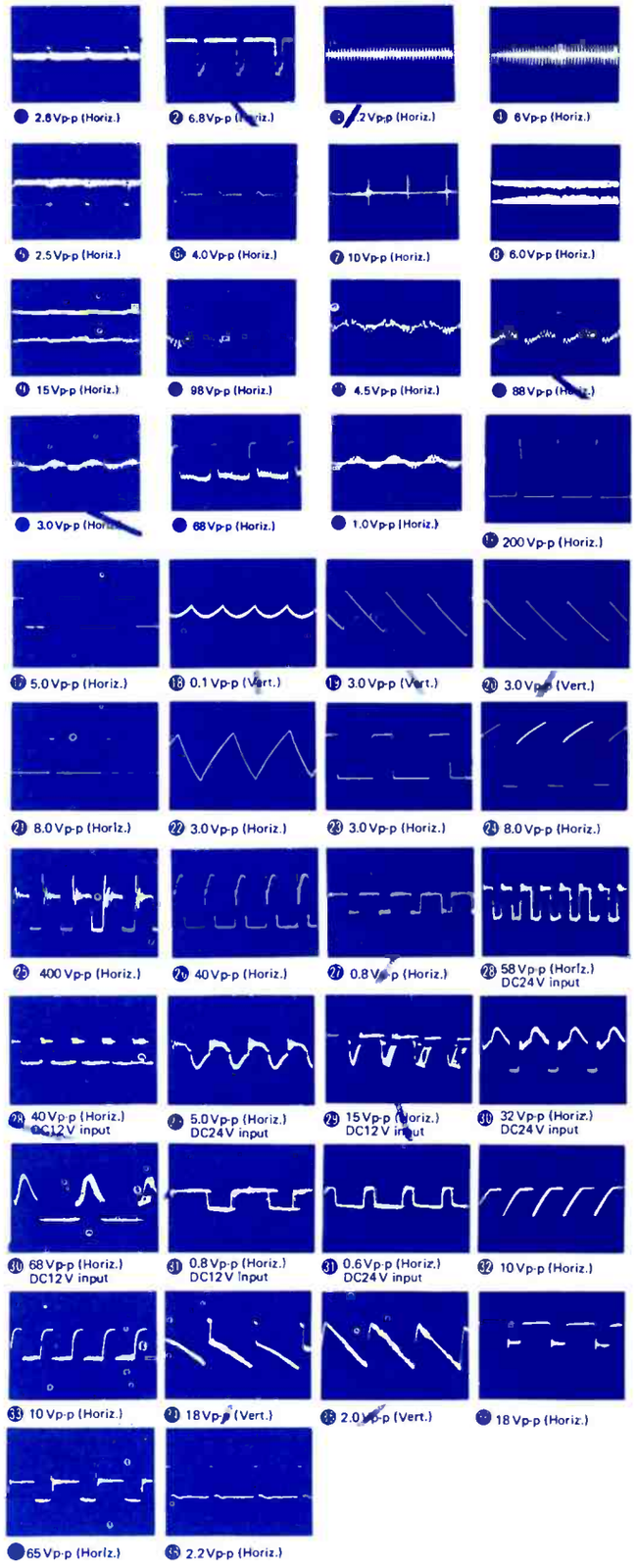


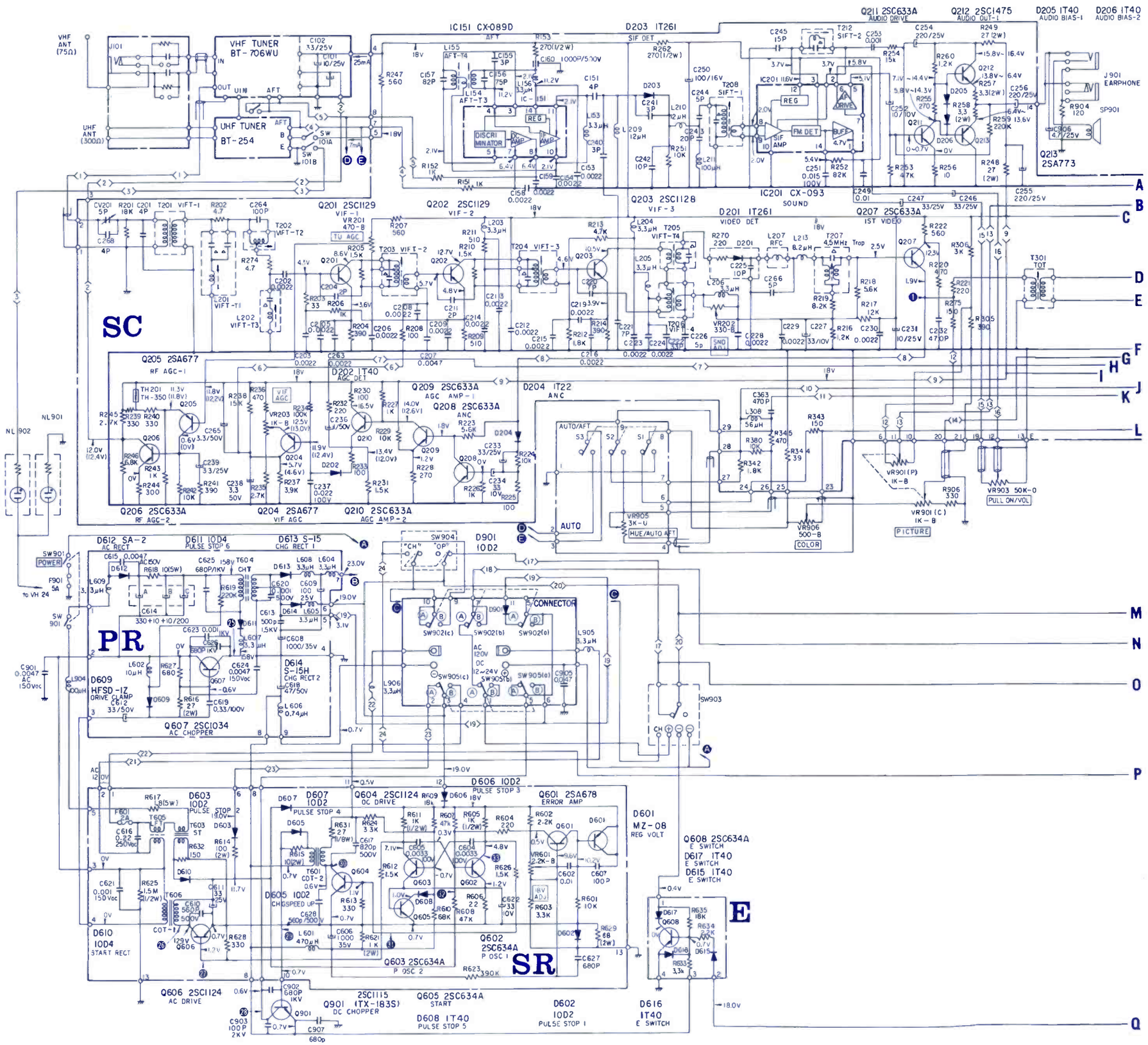


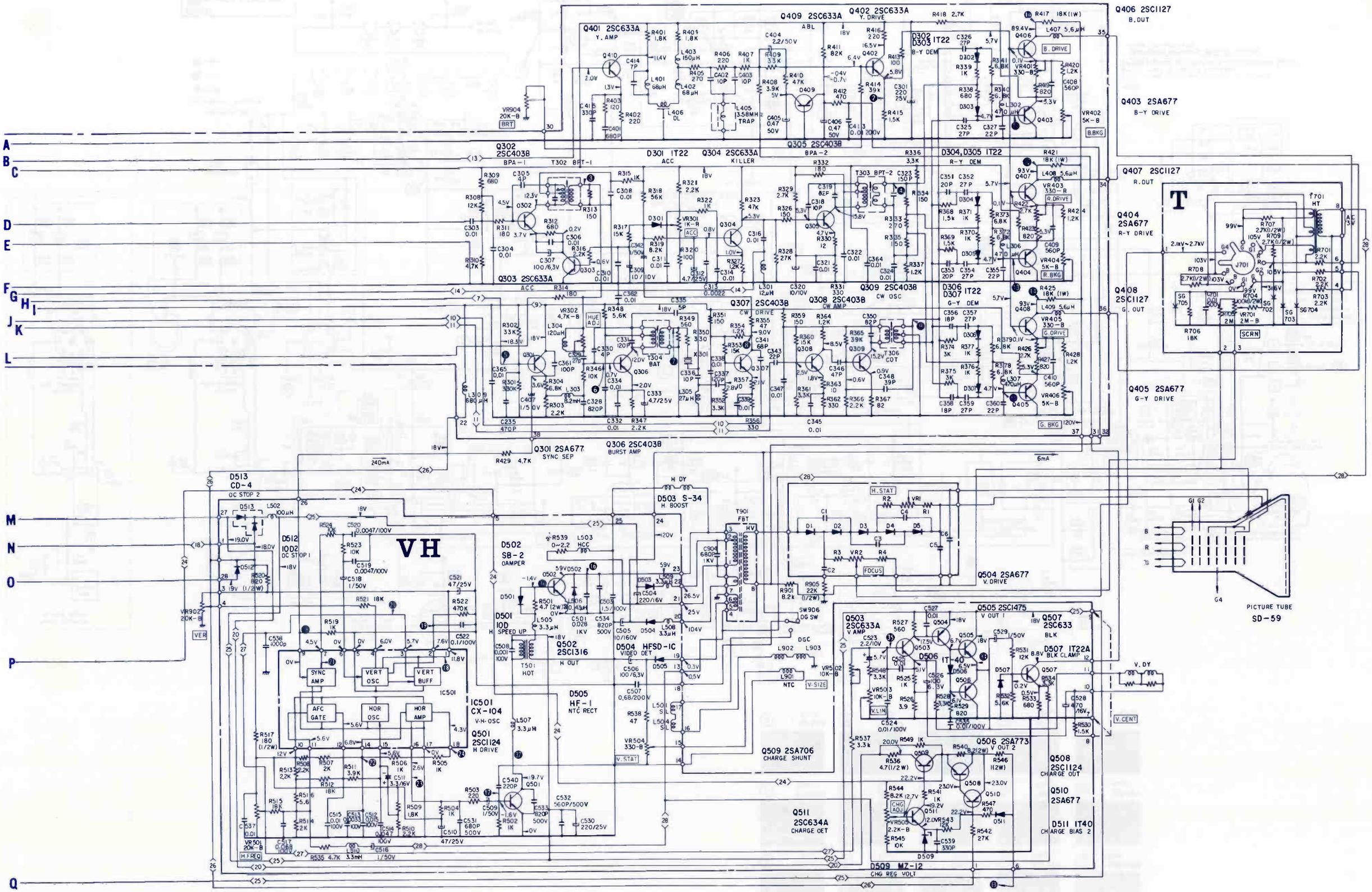


SONY
Color TV Model
KV-1500

SONY
Color TV Model
KV-5000



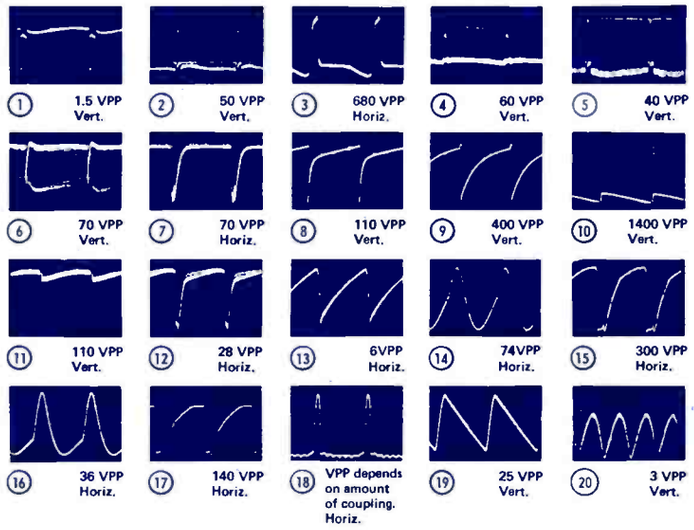


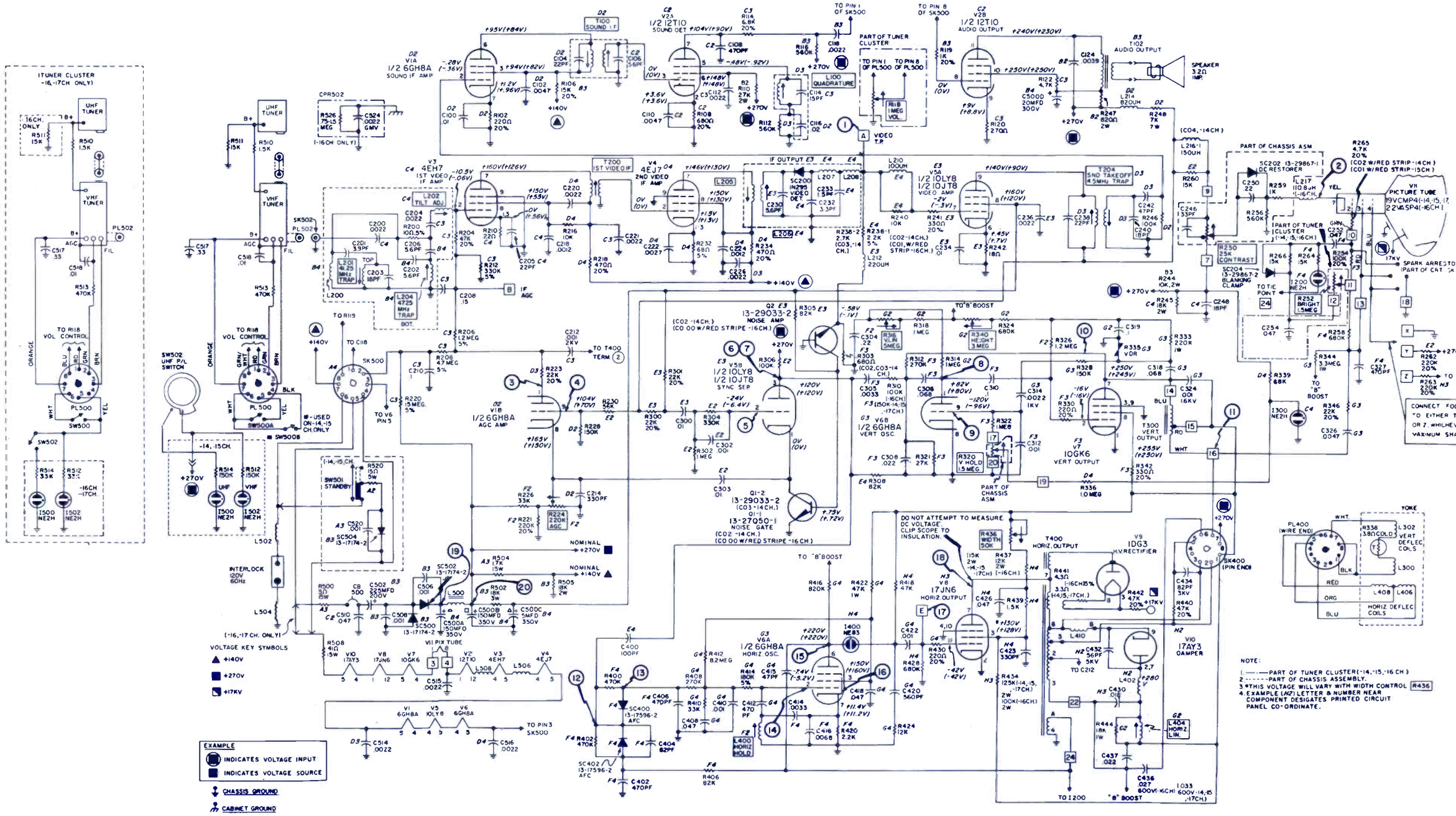


SONY
Color TV Model
KV-5000

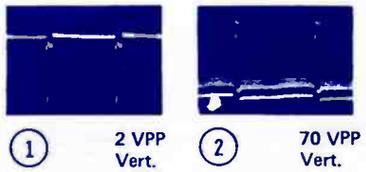
SYLVANIA

B10-14/-17





WAVEFORMS



1 — 2 VPP Vert.

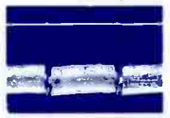
2 — 70 VPP Vert.



3 — 8 VPP Horiz.



4 — 1.5 VPP Vert.



5 — 3.5 VPP Vert.



6 — 60 VPP Vert.



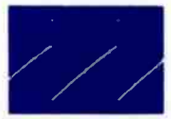
7 — 60 VPP Horiz.



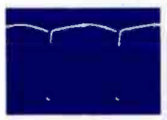
8 — 7 VPP Vert.



9 — 3.5 VPP Vert.



10 — 11 VPP Vert.



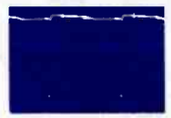
11 — 35 VPP Vert.



12 — 30 VPP Vert.



13 — 30 VPP Vert.



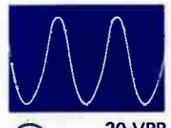
14 — 14 VPP Vert.



15 — 28 VPP Vert.



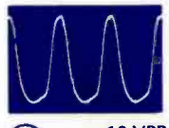
16 — 28 VPP Horiz.



17 — 20 VPP Horiz.



18 — 8 VPP Horiz.



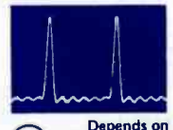
19 — 10 VPP Horiz.



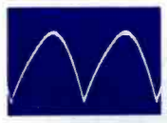
20 — 175 VPP Horiz.



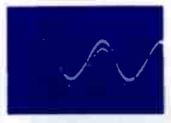
21 — 10 VPP Horiz.



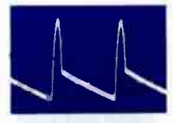
22 — Depends on amount of coupling Horiz.



23 — 3.5 VPP Vert.



24 — 1 VPP Vert.



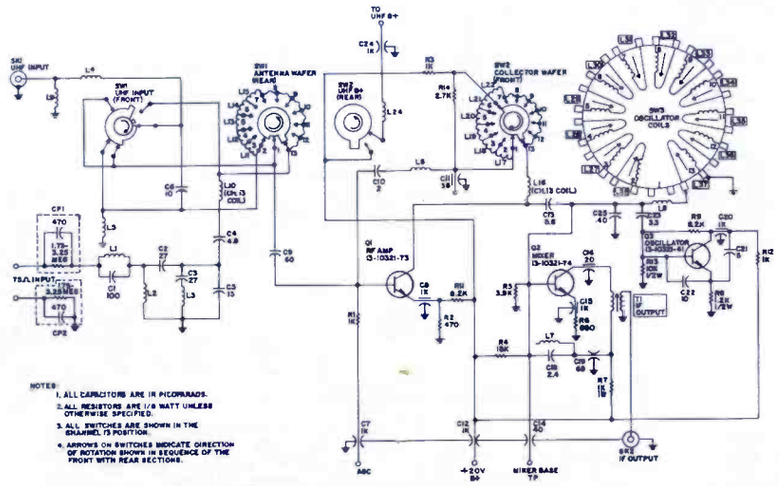
25 — 20 VPP Vert.



26 — 8 VPP Vert.

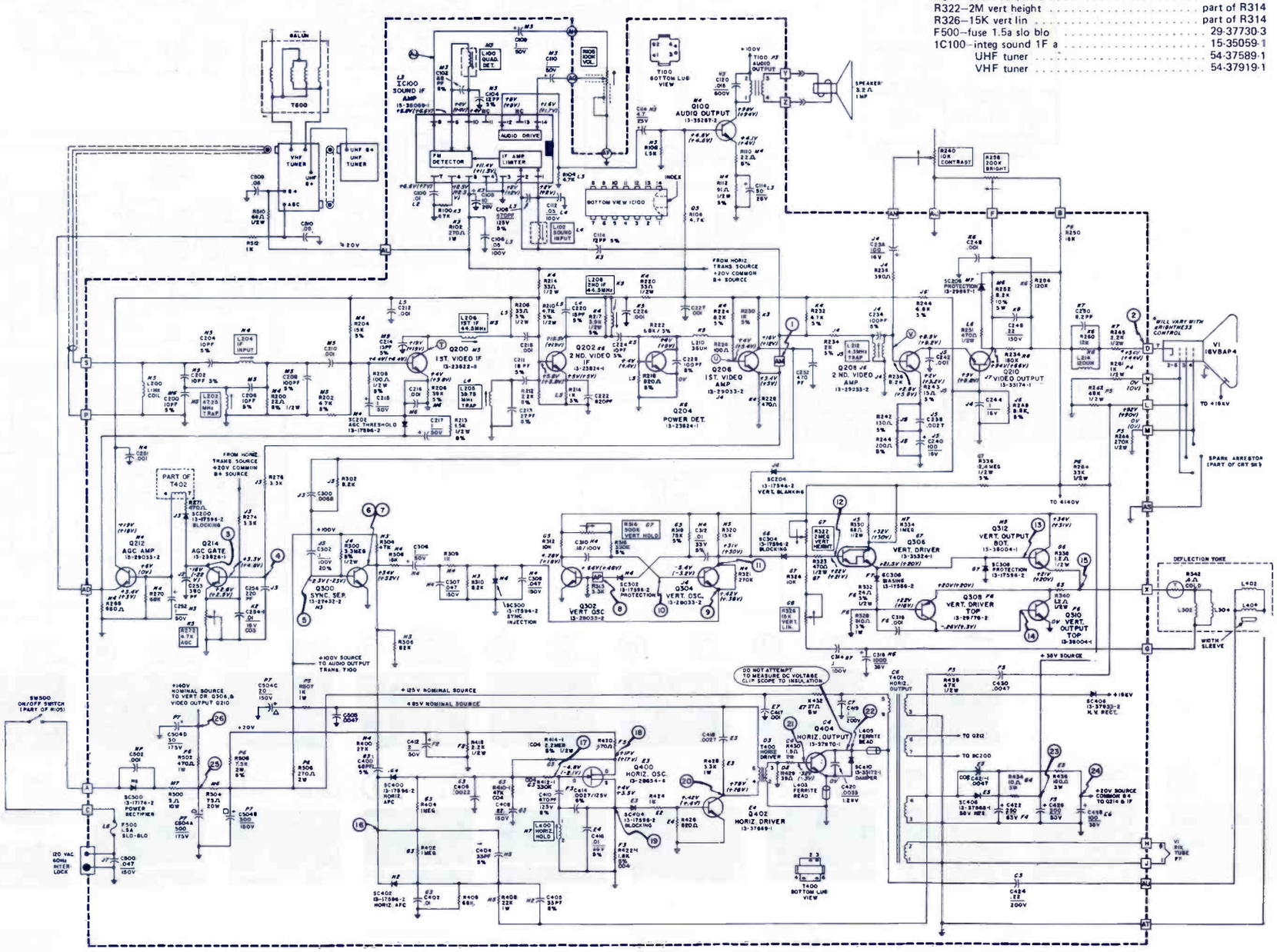
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VHF SCHEMATIC DIAGRAM



NOTES:
1. ALL CAPACITORS ARE IN PICOFARADS.
2. ALL RESISTORS ARE 1/8 WATT UNLESS OTHERWISE SPECIFIED.
3. ALL SWITCHES ARE SHOWN IN THE CHANNEL 13 POSITION.
4. ARROWS ON SWITCHES INDICATE DIRECTION OF ROTATION SHOWN IN SEQUENCE OF THE FRONT WITH REAR SECTIONS.

SYMBOL	DESCRIPTION	SYLVANIA PART NO.
C504—4 section electro		41-37861-1
A—500/175v		
B—300/150v		
C—20/150v		
D—30/175v		
R504—75, 20w		36-92898-68
L100—quad detect		50-33195-1
L102—sound input		50-35989-1
L212—4.5MHz trap		50-16238-5
L400—horiz hold		50-33955-2
L404—horiz coil		part of yoke
T100—audio output		56-37872-1
T402—horiz output		50-37884-1
R105—100K volume		37-35105-10
R240—10K contrast		37-2724-52
R258—200K brite		37-27242-51
R272—4.7K AGC		37-14576-13
R314—500K vert hold		37-33036-14
R322—2M vert height		part of R314
R326—15K vert lin		part of R314
F500—fuse 1.5a slo blo		29-37730-3
1C100—integ sound 1F a		15-35059-1
UHF tuner		54-37589-1
VHF tuner		54-37919-1

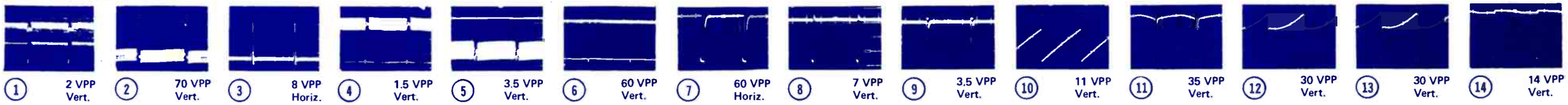


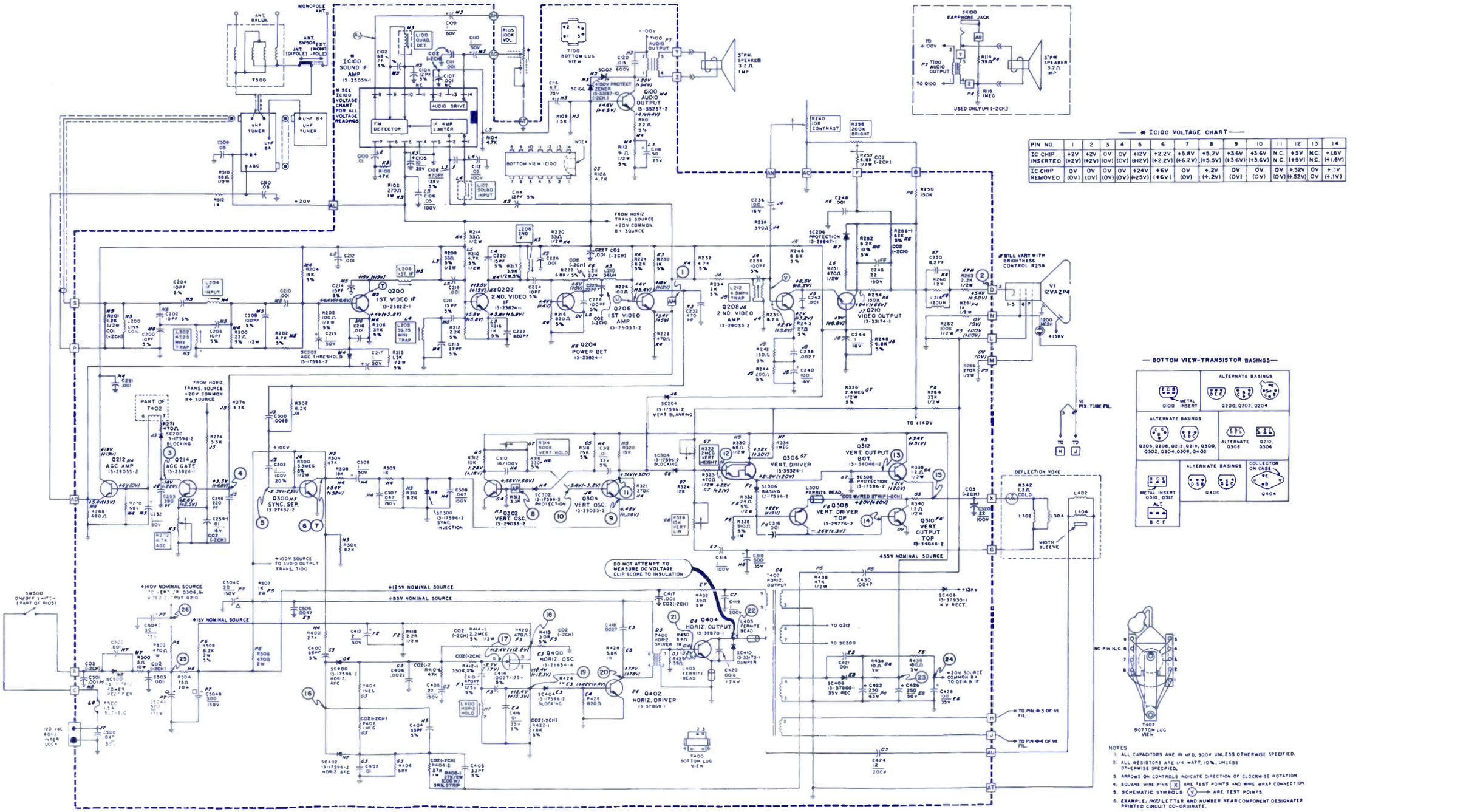
SYLVANIA
TV Chassis A16-1

SYLVANIA

TV Chassis
A12-1, -2

SYMBOL	DESCRIPTION	PART NO.
C504	4 section elect.	41-37861-1
	A—500/175v	
	B—300/150v	
	C—20/150v	
	D—30/175v	
L100	coil, quad detector	50-33195-1
L400	coil, horiz hold	50-33955-2
L402	coil, horiz	part of yoke
T100	xformer, audio output	56-37872-1
T400	xformer, horiz driver	56-37922-1
T402	xformer, horiz output	50-37934-1
R105	100K, vol	37-35105-10
R240	10K, contrast	37-27242-50
R258	200K, brightness	37-27242-49
R272	4.7K, AGC	37-14576-13
R314	500K, vert hold	37-33036-14
R322	2M, vert height	part of R314
R326	15K, vert lin	part of R314
	VHF tuner	54-37919-1





* IC100 VOLTAGE CHART

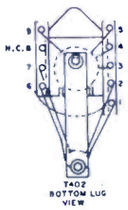
PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC CHIP INSERTED	+2V (+2V)	+2V (+2V)	0V (0V)	0V (0V)	+12V (+12V)	+2.2V (+2.2V)	+5.8V (+6.2V)	+5.2V (+5.5V)	+3.6V (+3.6V)	+3.6V (+3.6V)	N.C. N.C.	+5V (+5V)	N.C. N.C.	+1.6V (+1.6V)
IC CHIP REMOVED	0V (0V)	0V (0V)	0V (0V)	0V (0V)	+24V (+25V)	+6V (+6V)	0V (0V)	+.2V (+.2V)	0V (0V)	0V (0V)	0V (0V)	+.52V (+.52V)	0V 0V	+.1V (+.1V)

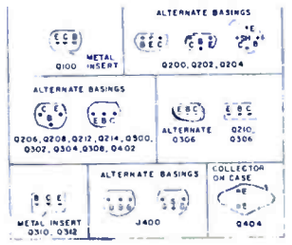
BOTTOM VIEW—TRANSISTOR BASINGS

NOTES

1. ALL CAPACITORS ARE IN MFD, 500V UNLESS OTHERWISE SPECIFIED.
2. ALL RESISTORS ARE 1/4 WATT, 10%, UNLESS OTHERWISE SPECIFIED.
3. ARROWS ON CONTROLS INDICATE DIRECTION OF CLOCKWISE ROTATION.
4. SQUARE WIRE PINS [X] ARE TEST POINTS AND WIRE WRAP CONNECTION
5. SCHEMATIC SYMBOLS (V)—— ARE TEST POINTS.
6. EXAMPLE: (N7) LETTER AND NUMBER NEAR COMPONENT DESIGNATES PRINTED CIRCUIT CO-ORDINATE.

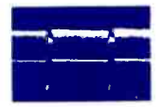
C504—4 section electrolytic	41-37861-1
A 500-175v	
B 300-150v	
C 20-150v	
D 30-175v	
L100—quad coil	50-33195-2
L102—sound input coil	50-35989-1
L206—1st IF xformer	57-23832-4
L208—snd IF xformer	57-23832-4
L212—4.5MHz trap coil	50-37714-3
L400—horiz hold coil	50-33955-2
T100—audio output xformer	56-37872-1
T400—horiz driver xformer	56-37922-1
T402—horiz output xformer	50-39372-1
R105—100K volume	37-35105-10
R240—1K contrast	37-39237-4
R258—200K brite	37-27242-57
R272—4.7K AGC	37-14576-13
R314—500K vert hold	37-33063-14
F500—fuse 1.5a slo blo	29-27730-3
IC100—integ sound IF/det	15-35059-1





NOTES:
1. ALL CAPACITORS ARE IN MFD, 500V UNLESS OTHERWISE SPECIFIED
2. ALL RESISTORS ARE 1/4 WATT, 10%, UNLESS OTHERWISE SPECIFIED
3. ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION
4. SQUARE WIRE PINS ☒ ARE TEST POINTS AND WIRE WRAP CONNECTION
5. ROUND CONNECTIONS ◯ ARE WIRE HOLES IN PC PANEL.
6. SCHEMATIC SYMBOLS Ⓥ — ARE TEST POINTS.
7. EXAMPLE (MP) LETTER AND NUMBER NEAR COMPONENT DESIGNATES PRINTED CIRCUIT CO-ORDINATE.

WAVEFORMS


1. 2 VPP Vert.


2. 70 VPP Vert.


3. 8 VPP Horiz.


4. 1.5 VPP Vert.


5. 3.5 VPP Vert.

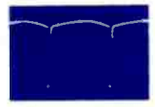

6. 60 VPP Vert.


7. 60 VPP Horiz.


8. 7 VPP Vert.


9. 3.5 VPP Vert.

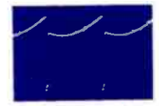

10. 11 VPP Vert.

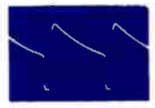

11. 35 VPP Vert.

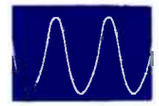

12. 30 VPP Vert.


13. 30 VPP Vert.

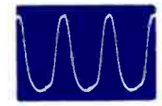

14. 14 VPP Vert.


15. 28 VPP Vert.


16. 28 VPP Horiz.

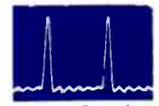

17. 20 VPP Horiz.

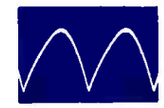

18. 8 VPP Horiz.

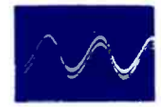

19. 10 VPP Horiz.

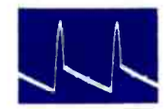

20. 210 VPP Horiz.

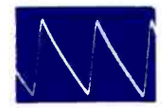

21. 10 VPP Horiz.


22. Depends on amount of coupling Horiz.

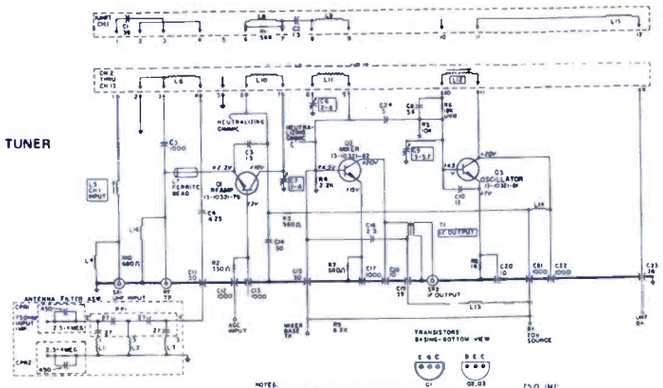

23. 3.5 VPP Vert.


24. .2 VPP Vert.

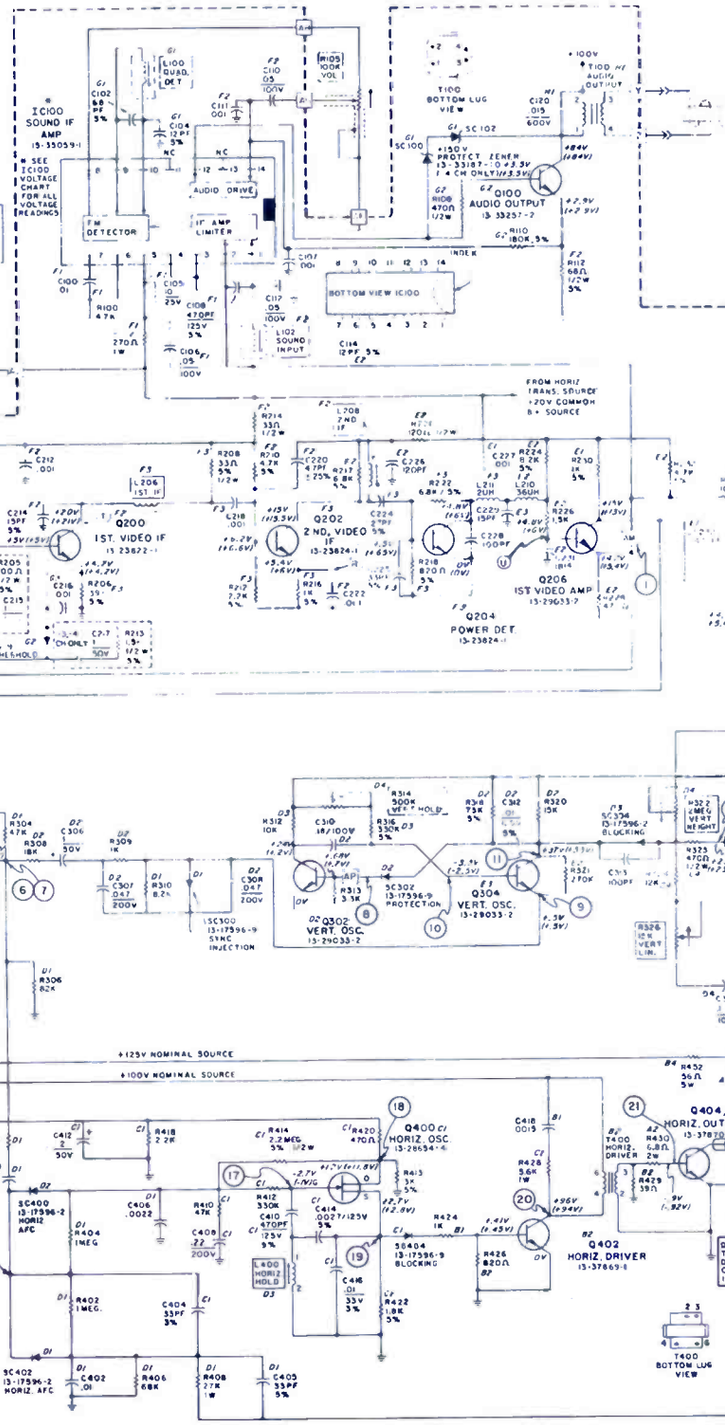

25. 20 VPP Vert.


26. 8 VPP Vert.

VHF TUNER

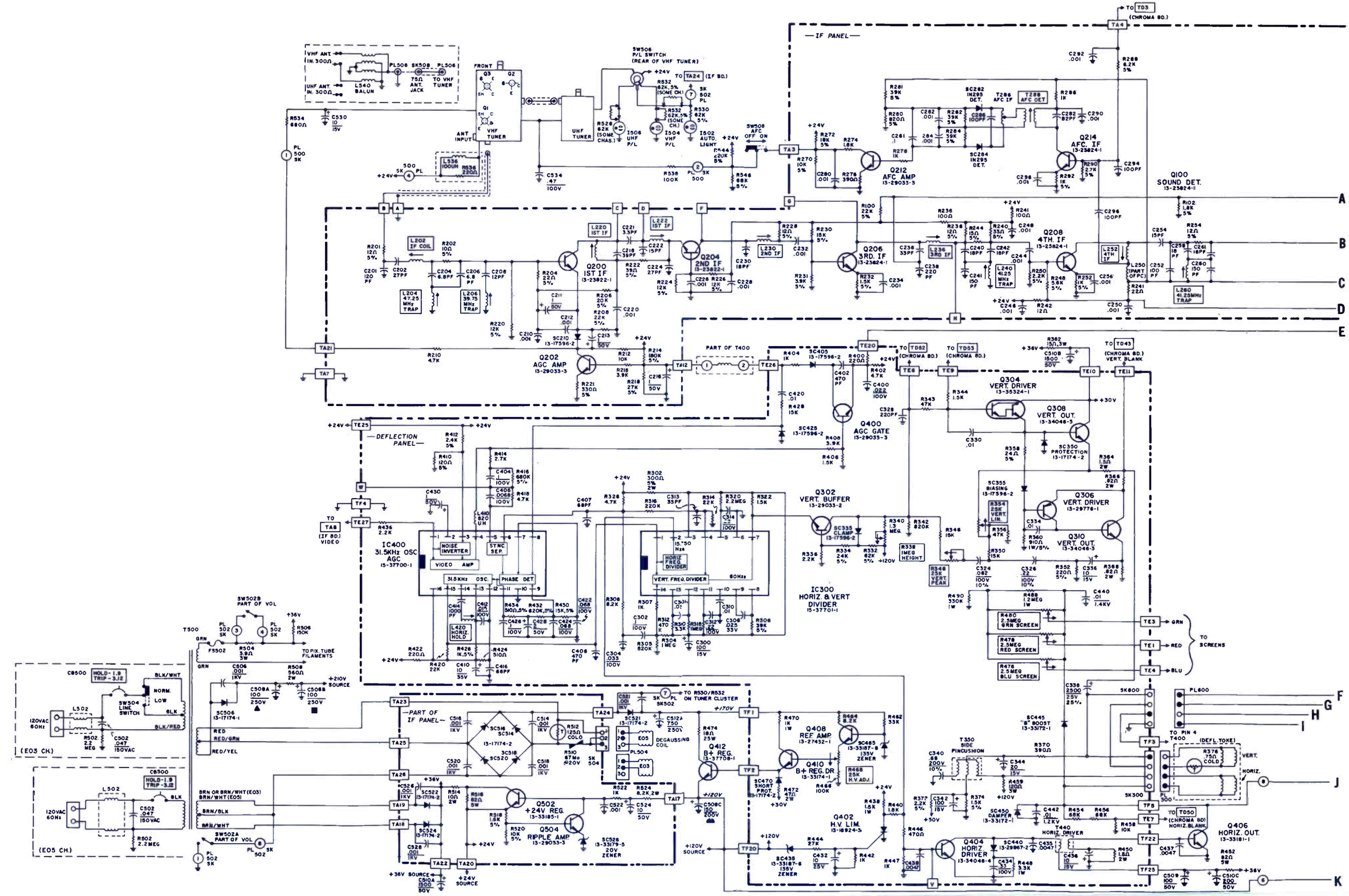


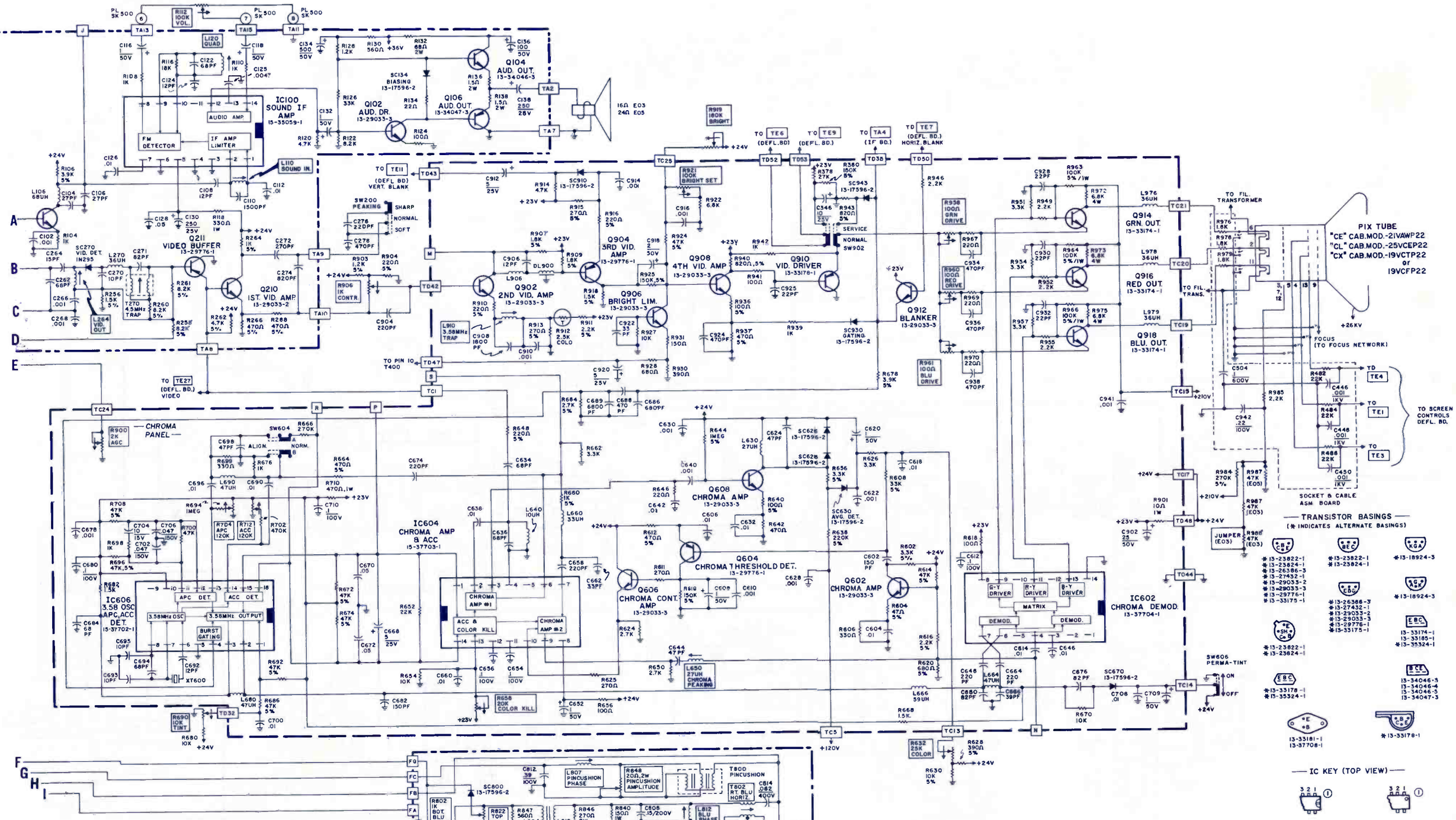
NOTES:
1. ALL RESISTORS ARE 1/2 WATT UNLESS OTHERWISE SPECIFIED.
2. ALL CAPACITORS ARE MFD.
3. ALL VOLTAGES ARE TAKEN WITH NO SIGNAL APPLIED



*IC100 VOLTAGE CHART

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC CHIP INSERTED	+1.9V (+1.9V)	+1.9V (+1.9V)	0V (0V)	+12V (+12V)	+2.6V (+2.6V)	+2.6V (+2.6V)	+6V (+6V)	+5.5V (+5.5V)	+3.8V (+3.8V)	+11.4V (+11.4V)	N.C. N.C.	+11.6V (+11.6V)	N.C. N.C.	+5.8V (+5.8V)
IC CHIP REMOVED	0V (0V)	0V (0V)	0V (0V)	+26V (+26V)	+26V (+26V)	0V (0V)	0V (0V)	0V (0V)	0V (0V)	0V (0V)	N.C. N.C.	+0.05V (+0.05V)	N.C. N.C.	0V (0V)

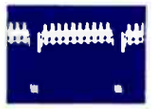

— IF PANEL —
— DEFLECTION PANEL —
— PART OF IF PANEL —
TO TD3 (CHROMA BD.)
TA4
TA3
TA24 (IF BD.)
TA21
TA7
TA12
TA23
TA25
TA26
TA22
TA20
TA17
TA18
TA19
TE25
TE27
TF4
TE20
TE26
TE6
TE9
TE10
TE11
TF1
TF2
TF20
TF3
TF5
TE7
TF22
TF25
TE3
TE1
TE4
TO TD82 (CHROMA BD.)
TO TD83 (CHROMA BD.)
TO TD43 (CHROMA BD.) VERT. BLANK
TO TD50 (CHROMA BD) HORIZ. BLANK.
TO TA8 (IF BD.) VIDEO
TO SCREENS
GRN
RED
BLU
SW506 P/L SWITCH (REAR OF VHF TUNER)
SW508 AFC OFF ON
SW502B PART OF VOL
SW502A PART OF VOL
SW504 LINE SWITCH
VHF ANT. IN. 300Ω
UHF ANT. IN. 300Ω
L540 BALUN
75Ω ANT. JACK
TO VHF TUNER
FRONT
VHF TUNER
UHF TUNER
ANT INPUT
I506 UHF P/L
I504 VHF P/L
I502 AUTO. LIGHT
L336 100UH R536 220Ω
L202 IF COIL
L204 47.25 MHz TRAP
L206 39.75 MHz TRAP
L220 1ST IF
L222 1ST IF
L230 2ND IF
L236 3RD IF
L252 4TH IF
L240 4125 MHz TRAP
L250 (PART OF PC)
L260 41.25MHz TRAP
L420 HORIZ. HOLD
L440 820 UH
Q200 1ST IF 13-23822-1
Q204 2ND IF 13-23822-1
Q206 3RD. IF 13-23824-1
Q208 4TH. IF 13-23824-1
Q212 AFC AMP 13-29033-3
Q214 AFC IF 13-23824-1
Q100 SOUND DET. 13-23824-1
Q202 AGC AMP 13-29033-3
Q400 AGC GATE 13-29033-3
Q304 VERT. DRIVER 13-35324-1
Q308 VERT. OUT. 13-34048-5
Q302 VERT. BUFFER 13-29033-2
Q306 VERT. DRIVER 13-29778-1
Q310 VERT. OUT. 13-34046-3
IC400 31.5KHz OSC AGC 13-37700-1
IC300 HORIZ. & VERT DIVIDER 13-37701-1
Q502 +24V REG. 13-33185-1
Q504 RIPPLE AMP 13-29033-3
Q412 B+ REG. 13-37708-1
Q410 B+ REG. DR 13-33174-1
Q408 REF. AMP 13-27432-1
Q402 H.V. LIM. 13-18924-3
Q404 HORIZ DRIVER 13-34048-4
Q406 HORIZ. OUT. 13-33181-1
T500
T350 SIDE PINCUSHION
T440 HORIZ. DRIVER
T286 AFC IF
T288 AFC DET
SC282 IN295 DET.
SC284 IN295 DET.
SC210 13-17596-2
SC405 13-17596-2
SC425 13-17596-2
SC335 CLAMP 13-17596-2
SC355 BIASING 13-17596-2
SC350 PROTECTION 13-17174-2
SC470 SHORT PROT. 13-17174-2
SC506 13-17174-1
SC516 SC514 13-17174-2 SC520 SC518
SC521 13-17174-2
SC522 13-17174-2
SC524 13-17174-2
SC526 13-33179-5 20V ZENER
SC435 13-33187-8 135V ZENER
SC465 13-33187-8 135V ZENER
SC445 "B" BOOST 13-33172-1
SC450 DAMPER 13-33172-1
SC440 13-29867-2
DEGAUSSING COIL
PL504
E05
E03
IC400 31.5KHz OSC AGC 13-37700-1
NOISE INVERTER
SYNC SEP.
VIDEO AMP
31.5KHz OSC.
PHASE DET.
HORIZ FREQ. DIVIDER
15.750 Hz
VERT. FREQ. DIVIDER
60Hz
C8500 HOLD-1.9 TRIP-3.12
C8500 HOLD-1.9 TRIP-3.12
(E03 CH.)
(E05 CH.)
120VAC 60Hz
BLK/WHT
NORM.
LOW
BLK
BLK/RED
RED
RED/GRN
RED/YEL
BRN OR BRN/WHT (E03)
BRN/WHT (E05)
BRN/BLK
BRN/WHT
+210V SOURCE
TO PIX TUBE FILAMENTS
+170V
+120V SOURCE
+36V SOURCE
+24V SOURCE
+30V
+50V
+36V
+24V
+120V
TO R530/R532 ON TUNER CLUSTER
TO PIN 4 T400 (DEFL. YOKE)
VERT.
HORIZ.
PART OF T400
PART OF VOL
IC300 HORIZ. & VERT DIVIDER 13-37701-1
R480 2.5MEG GRN SCREEN
R478 2.5MEG RED SCREEN
R476 2.5MEG BLU SCREEN
SK800
PL800
SK300
PL500
SK502
PL502
SK504
PL504
F5502
T5500



SYLVANIA
Color-TV Chassis
EO5

SYLVANIA

Color-TV Chassis
E06-1



1 2.8 VPP Horiz.



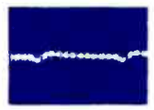
2 1.8 VPP Horiz.



3 12.5 VPP Horiz.



4 100 VPP Vert.



5 .22 VPP Horiz.



6 .42 VPP Horiz.



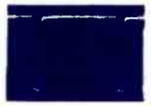
7 10.4 VPP Horiz.



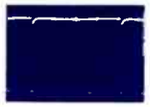
18 18 VPP Vert.



19 7 VPP Vert.



20 18 VPP Horiz.



21 18 VPP Vert.



22 2.6 VPP Horiz.



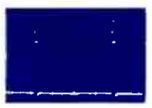
23 1.8 VPP Vert.



24 5.8 VPP Vert.



25 4.8 VPP Vert.



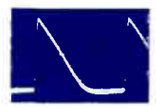
26 25 VPP Vert.



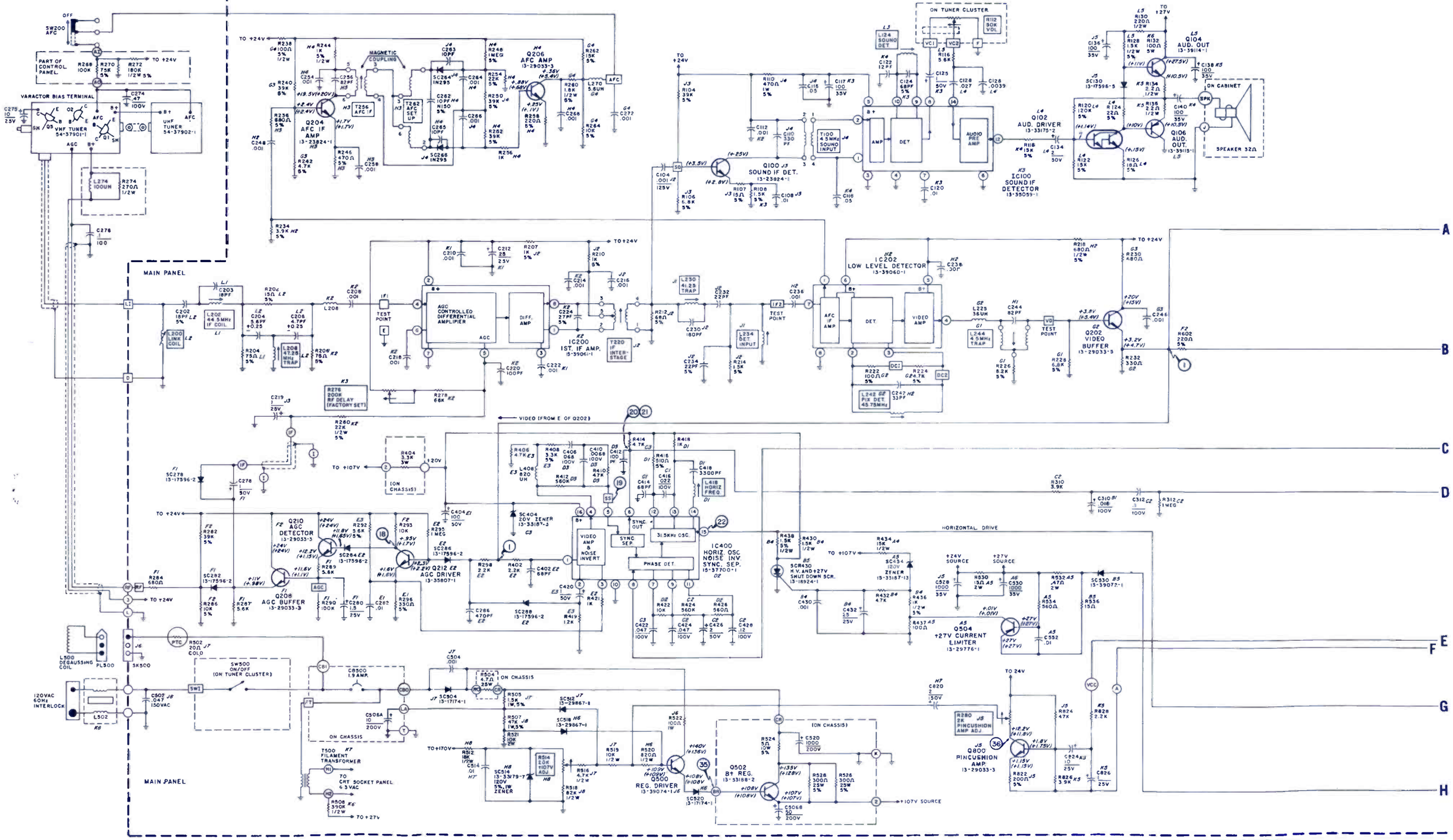
27 2 VPP Vert.



28 4 VPP Vert.

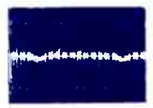


29 1.8 VPP Vert.

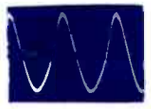

MAIN PANEL
ON TUNER CLUSTER
ON CHASSIS
ON CABINET
IC200 IST. IF AMP. 15-39061-1
IC202 LOW LEVEL DETECTOR 13-39060-1
IC100 SOUND IF DETECTOR 13-35059-1
IC400 HORIZ. OSC NOISE INV SYNC. SEP. 15-37700-1
Q204 AFC IF AMP 13-23824-1
Q206 AFC AMP 13-29033-3
Q208 AGC BUFFER 13-29033-3
Q210 AGC DETECTOR 13-29033-3
Q212 AGC DRIVER 13-35807-1
Q100 SOUND IF DET. 13-23824-1
Q102 AUD. DRIVER 13-33175-2
Q104 AUD. OUT 13-39114-1
Q106 AUD. OUT 13-39115-1
Q202 VIDEO BUFFER 13-29033-5
Q500 REG. DRIVER 13-39074-1
Q502 B+ REG. 13-33188-2
Q504 +27V CURRENT LIMITER 13-29776-1
Q900 PINCUSHION AMP 13-29033-3
SPEAKER 32Ω
VHF TUNER 54-37901-1
UHF TUNER 54-37902-1
VARACTOR BIAS TERMINAL
AGC CONTROLLED DIFFERENTIAL AMPLIFIER
DIFF. AMP
AMP
DET
VIDEO AMP
AUDIO PRE AMP
SYNC SEP.
PHASE DET.
VIDEO AMP & NOISE INVERT
31.5KHz OSC.
AFC IF AMP
VIDEO AMP
HORIZONTAL DRIVE
VIDEO (FROM E OF Q202)
SW200 AFC
SW300 ON/OFF (ON TUNER CLUSTER)
C8500 1.9 AMP.
T500 FILAMENT TRANSFORMER
TO CRT SOCKET PANEL 6.3 VAC
L500 DEGAUSSING COIL
PL500 3K5CO
120VAC 60Hz INTERLOCK
L502
R502 20Ω COLD
C502 .047 150VAC
R500 390K 1/2W
TO +27v
TO +24V
TO +107V
TO +170V
TO +140V
TO 24V
+107V SOURCE
+24V SOURCE
+27V SOURCE
T100 4.5MHz SOUND INPUT
T220 IF INTER-STAGE
T256 AFC IF
T262 AFC SET UP
L200 LINK COIL
L202 44.5MHz IF COIL
L203 IF
L204 47.25 MHz TRAP
L208 47.25 MHz TRAP
L225 36uH
L230 41.25 TRAP
L234 DET. INPUT
L244 4.5MHz TRAP
L242 PIX DET 45.75MHz
L250 41.25 TRAP
R276 200K RF DELAY (FACTORY SET)
R278 68K
R280 2K PINCUSHION AMP ADJ.
R514 20K +107V ADJ.
R112 50K VOL
SC278 13-17596-2
SC282 13-17596-2
SC284 13-17596-2
SC286 13-17596-2
SC288 13-17596-2
SC404 20V ZENER 13-33187-3
SC430 +130V SHUT DOWN SCR. 13-16924-1
SC434 130V ZENER 15-33187-13
SC514 13-33179-7 120V 5% 1W ZENER
SC520 13-17174-1
SC530 13-39072-1
SC1200 13-29867-8
SC1202 13-29867-8
SC1204 13-29867-8
SC1206 13-29867-8
SC1208 13-29867-8
SC1210 13-29867-8
SC1212 13-29867-8
SC1214 13-29867-8
SC1216 13-29867-8
SC1218 13-29867-8
SC1220 13-29867-8
SC1222 13-29867-8
SC1224 13-29867-8
SC1226 13-29867-8
SC1228 13-29867-8
SC1230 13-29867-8
SC1232 13-29867-8
SC1234 13-29867-8
SC1236 13-29867-8
SC1238 13-29867-8
SC1240 13-29867-8
SC1242 13-29867-8
SC1244 13-29867-8
SC1246 13-29867-8
SC1248 13-29867-8
SC1250 13-29867-8
SC1252 13-29867-8
SC1254 13-29867-8
SC1256 13-29867-8
SC1258 13-29867-8
SC1260 13-29867-8
SC1262 13-29867-8
SC1264 IN295
SC1265 IOPF
SC1266 IN295
SW1
MAGNETIC COUPLING
TEST POINT
SYNC OUT
VC1
VC2
DC1
DC2
SPK
PTC
CB1
CB2
CR
K1
K2
K3
K4
K5
K6
K7
K8
K9
K10
K11
K12
K13
K14
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K36
K37
K38
K39
K40



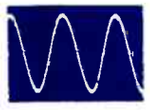
8 .22 VPP 3.58MHz



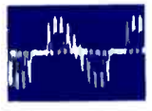
9 4 VPP Horiz.



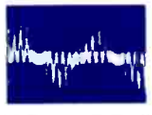
10 .52 VPP 3.58MHz



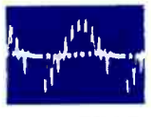
11 9 VPP 3.58MHz



12 5.5 VPP Horiz.



13 1.7 VPP Horiz.



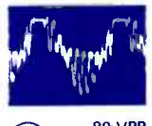
14 6.6 VPP Horiz.



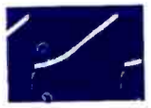
15 70 VPP Horiz.



16 54 VPP Horiz.



17 80 VPP Horiz.



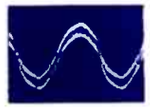
30 26 VPP Vert.



31 4.8 VPP Horiz.



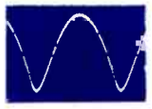
32 40 VPP Horiz.



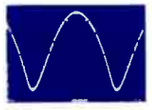
33 72 VPP Vert.



34 4 VPP Vert.



35 8 VPP Vert.



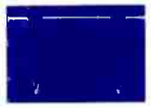
36 10 VPP Vert.



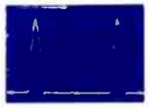
37 3.2 VPP Horiz.



38 120 VPP Horiz.



39 420 VPP Horiz.

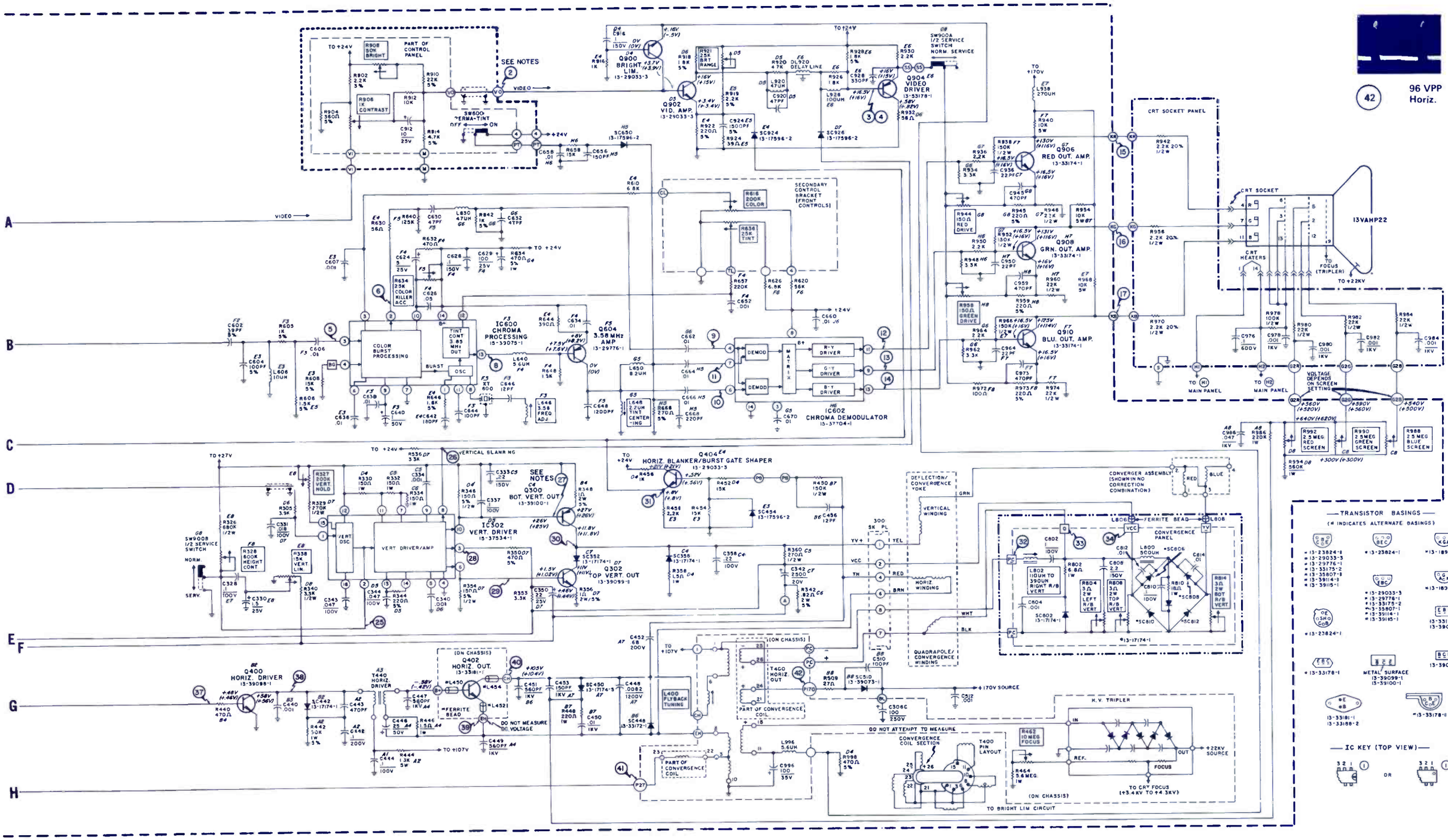


40 440 VPP Horiz.



41 240 VPP Horiz.

42 96 VPP Horiz.



SYLVANIA
Color-TV Chassis
E06-1

SYLVANIA

Color-TV Chassis
E06-2



1 2.8 VPP Horiz.



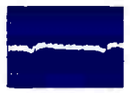
2 1.8 VPP Horiz.



3 12.5 VPP Horiz.



4 100 VPP Vert.



5 .22 VPP Horiz.



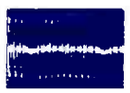
6 .42 VPP Horiz.



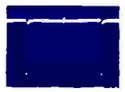
7 10.4 VPP Horiz.



8 .22 VPP 3.58MHz



9 4 VPP Horiz.



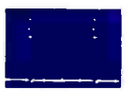
23 1.8 VPP Vert.



24 5.8 VPP Vert.



25 4.8 VPP Vert.



26 25 VPP Vert.



27 2 VPP Vert.



28 4 VPP Vert.



29 1.8 VPP Vert.



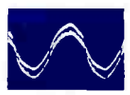
30 26 VPP Vert.



31 4.8 VPP Horiz.



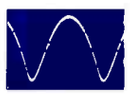
32 40 VPP Horiz.



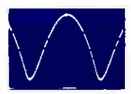
33 72 VPP Vert.



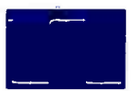
34 4 VPP Vert.



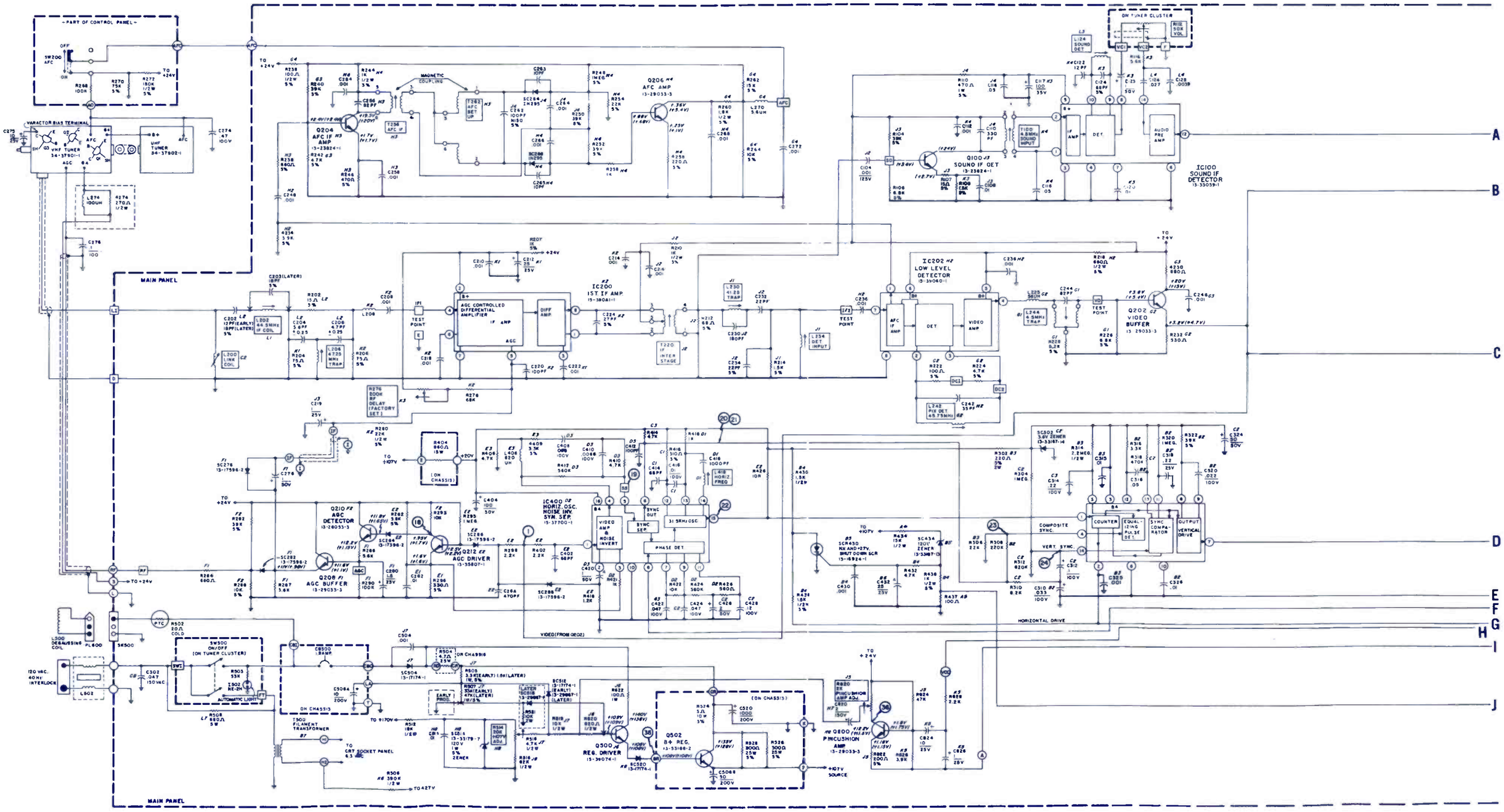
35 8 VPP Vert.

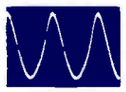


36 10 VPP Vert.

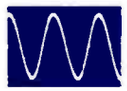


37 3.2 VPP Horiz.

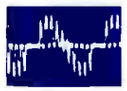

~PART OF CONTROL PANEL~
SW200 AFC
R268 100K
R270 75K 5%
R272 180K 1/2W 5%
VARACTOR BIAS TERMINAL
VHF TUNER 54-37901-1
UHF TUNER 54-37902-1
C274 47 100V
L274 100UH
4274 270Ω 1/2W
C276 100
MAIN PANEL
Q204 AFC IF AMP 13-23824-1
Q206 AFC AMP 13-28033-3
T282 AFC SET UP
T286 AFC IF
MAGNETIC COUPLING
R238 560Ω 5%
R240 39K 5%
R242 4.7K 5%
R244 1K 1/2W 5%
R246 1K 1/2W 5%
R248 1MEG 5%
R250 39K 5%
R252 39K 5%
R254 22K 5%
R256 1K
R258 220Ω 5%
R260 1.8K 1/2W 5%
R262 15K 5%
R264 10K 5%
L270 5.6UH
C246 .001
C248 .001
C256 .001
C258 .001
C262 100PF NISO 5%
C264 .001
C266 .001
C268 .001
C272 .001
C284 .001
C286 82 PF
SC284 1N295
SC286 1N295
SC288 1N295
C263 100PF
C265 100PF
TO +24V
TO AFC
IC100 SOUND IF DETECTOR 13-33059-1
Q100 SOUND IF DET 13-23824-1
ON TUNER CLUSTER
R110 470Ω 1W 5%
R114 330Ω 5%
R116 470Ω 1W 5%
R118 100Ω 5%
R120 6.8K 5%
C104 .001 125V
C110 330 PF
C112 .001
C114 .05
C116 .05
C117 100 35V
C118 .001
C122 12 PF
C123 12 PF
C124 68PF 5%
C125 .05 50V
C126 .027
C128 .0039
L100 4.5MHz SOUND INPUT
L124 SOUND DET
RIOI 50K VOL
R103 5.6K
IF AMP
DET
AUDIO PRE AMP
A
B
C
D
E
F
G
H
I
J
C202 12PF(EARLY) 18PF(LATER) 5%
L202 4.5MHz IF COIL
L200 LINK COIL
L204 3.6PF ±.25
L206 4.7PF ±.25
L208 4.725 MHz TRAP
R202 10Ω 1/2W 5%
R204 75Ω 5%
R206 75Ω 5%
C208 .001
C210 .001
C212 25 25V
C214 .001
C216 .001
C218 .001
C220 100PF
C222 .001
C224 .001
C226 27PF 5%
C230 180PF
C232 22PF
C234 22PF 5%
R208 4.7K 1/2W 5%
R210 1K 5%
R212 68Ω 5%
R214 1.5K 5%
R216 1K 1/2W 5%
IC200 1ST I.F. AMP 13-38041-1
AGC CONTROLLED DIFFERENTIAL AMPLIFIER
IF AMP
AGC
DIFF AMP
T220 IF INTER STAGE
L230 41.25 TRAP
L234 DET INPUT
L236 .001
TEST POINT
IP1
R276 200K RF DELAY (FACTORY SET)
R278 68K
IC202 LOW LEVEL DETECTOR 13-39040-1
AFC IF AMP
DET
VIDEO AMP
C236 .001
C238 .001
C240 .001
C242 39PF
L240 PIX DET 45.75MHz
L242 4.5MHz TRAP
L244 PIX DET
L246 4.5MHz TRAP
R218 680Ω 1/2W 5%
R220 2K PINCUSHION AMP ADJ
R222 100Ω 5%
R224 4.7K 5%
R226 6.8K 5%
R228 8.2K 5%
R230 330Ω
R232 330Ω
C244 82PF
C246 .001
Q202 VIDEO BUFFER 13-29033-3
+5.8V (+5.4V)
+5.8V (+4.7V)
+5.8V (+13V)
TO +24V
DCI
DC2
R200 LINK COIL
C200 .001
C202 12PF(EARLY) 18PF(LATER) 5%
C203(LATER) 18PF 5%
C204 3.6PF ±.25
C206 4.7PF ±.25
C208 .001
C210 .001
C212 25 25V
C214 .001
C216 .001
C218 .001
C220 100PF
C222 .001
C224 .001
C226 27PF 5%
C230 180PF
C232 22PF
C234 22PF 5%
C236 .001
C238 .001
C240 .001
C242 39PF
C244 82PF
C246 .001
C248 .001
C250 .001
C252 .001
C254 .001
C256 .001
C258 .001
C260 .001
C262 .01
C264 .001
C266 .001
C268 .001
C270 .001
C272 .001
C274 .001
C276 .001
C278 .001
C280 .001
C282 .01
C284 .001
C286 .001
C288 .001
C290 .1 25V
C292 .001
C294 .001
C296 .001
C298 .001
C300 .001
C302 .047 150VAC
C304 .001
C306 .001
C308 .001
C310 .001
C312 .001
C314 .22 100V
C316 .05
C318 .22 25V
C320 .022 100V
C322 .001
C324 50 50V
C326 .01
C328 .001
C330 .01
C332 .001
C334 .001
C336 .001
C338 .001
C340 .001
C342 .001
C344 .001
C346 .001
C348 .001
C350 .001
C352 .001
C354 .001
C356 .001
C358 .001
C360 .001
C362 .001
C364 .001
C366 .001
C368 .001
C370 .001
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C380 .001
C382 .001
C384 .001
C386 .001
C388 .001
C390 .001
C392 .001
C394 .001
C396 .001
C398 .001
C400 .001
C402 .001
C404 .001
C406 .001
C408 .001
C410 .0068 100V
C412 100PF
C414 68PF
C416 1000 PF
C418 .01 100V
C420 .033 100V
C422 .047 100V
C424 .047 100V
C426 .12 100V
C428 50 50V
C430 .001
C432 25 25V
C434 .001
C436 .001
C438 .001
C440 .001
C442 .001
C444 .001
C446 .001
C448 .001
C450 .001
C452 .001
C454 .001
C456 .001
C458 .001
C460 .001
C462 .001
C464 .001
C466 .001
C468 .001
C470 .001
C472 .001
C474 .001
C476 .001
C478 .001
C480 .001
C482 .001
C484 .001
C486 .001
C488 .001
C490 .001
C492 .001
C494 .001
C496 .001
C498 .001
C500 .001
C502 .001
C504 .001
C506 .001
C508 .001
C510 .001
C512 .001
C514 .001
C516 .001
C518 .001
C520 1000 200V
C522 .001
C524 .001
C526 .001
C528 .001
C530 .001
C532 .001
C534 .001
C536 .001
C538 .001
C540 .001
C542 .001
C544 .001
C546 .001
C548 .001
C550 .001
C552 .001
C554 .001
C556 .001
C558 .001
C560 .001



(10) .52 VPP 3.58MHz



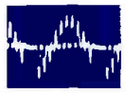
(11) 9 VPP 3.58MHz



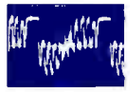
(12) 5.5 VPP Horiz.



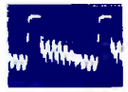
(13) 1.7 VPP Horiz.



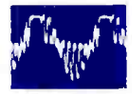
(14) 6.6 VPP Horiz.



(15) 70 VPP Horiz.



(18) 54 VPP Horiz.



(17) 80 VPP Horiz.



(18) 18 VPP Vert.



(19) 7 VPP Vert.



(20) 18 VPP Horiz.



(21) 18 VPP Vert.



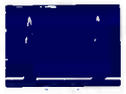
(22) 2.6 VPP Horiz.



(38) 120 VPP Horiz.



(39) 420 VPP Horiz.



(40) 440 VPP Horiz.

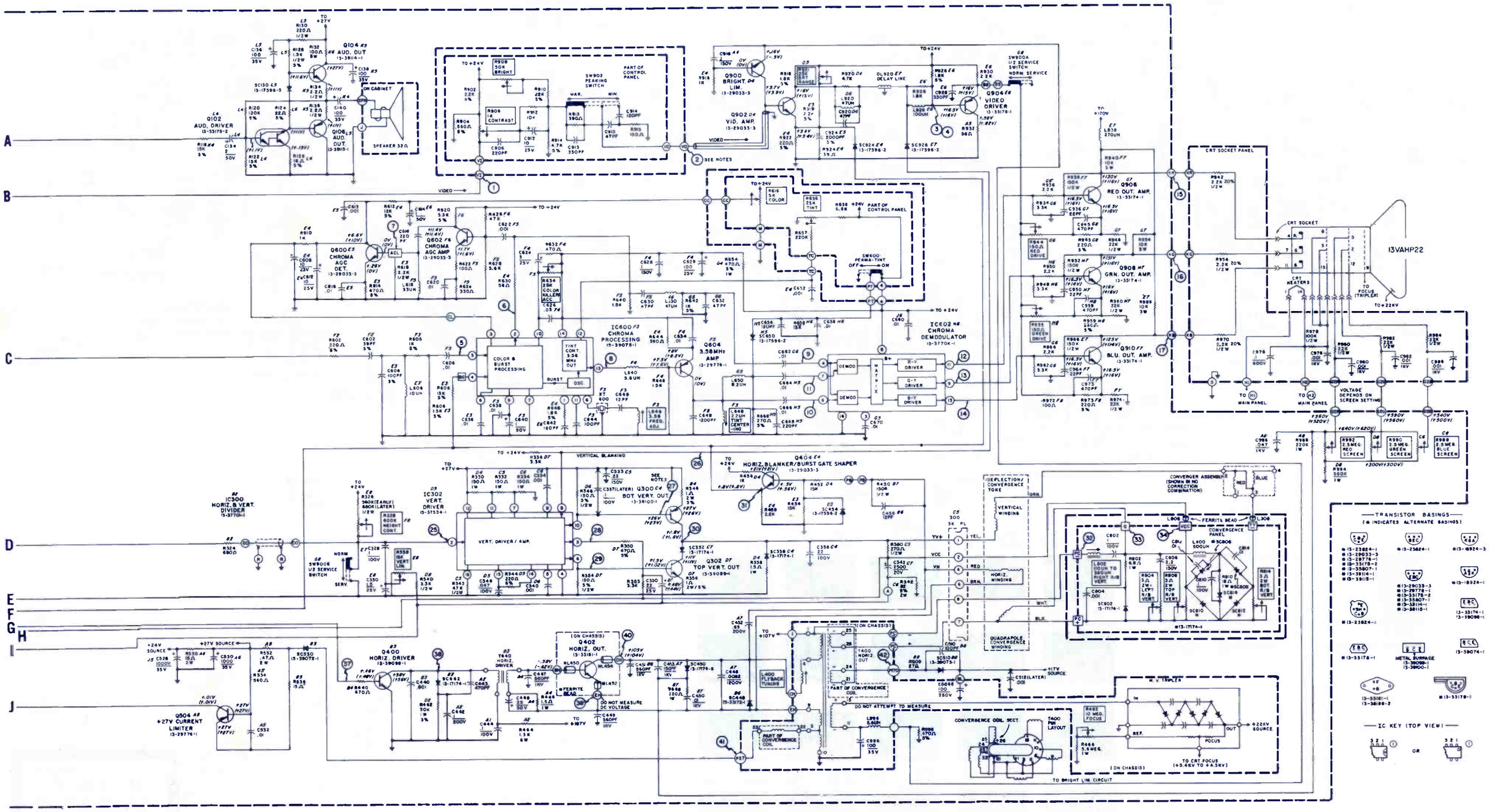


(41) 240 VPP Horiz.

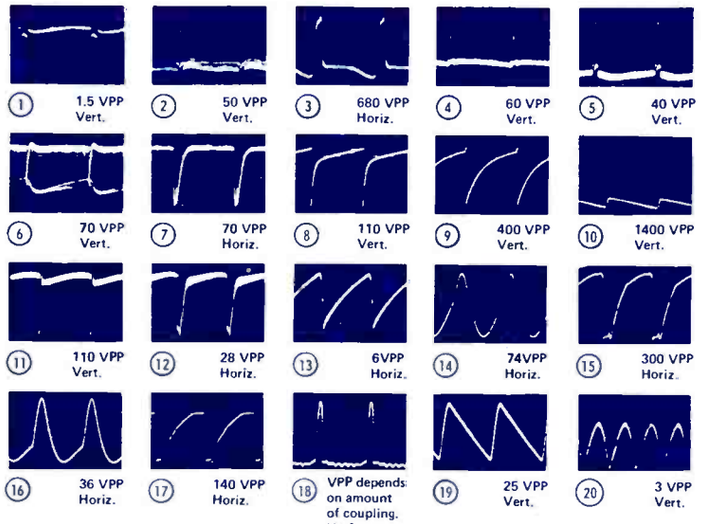


(42) 96 VPP Horiz.

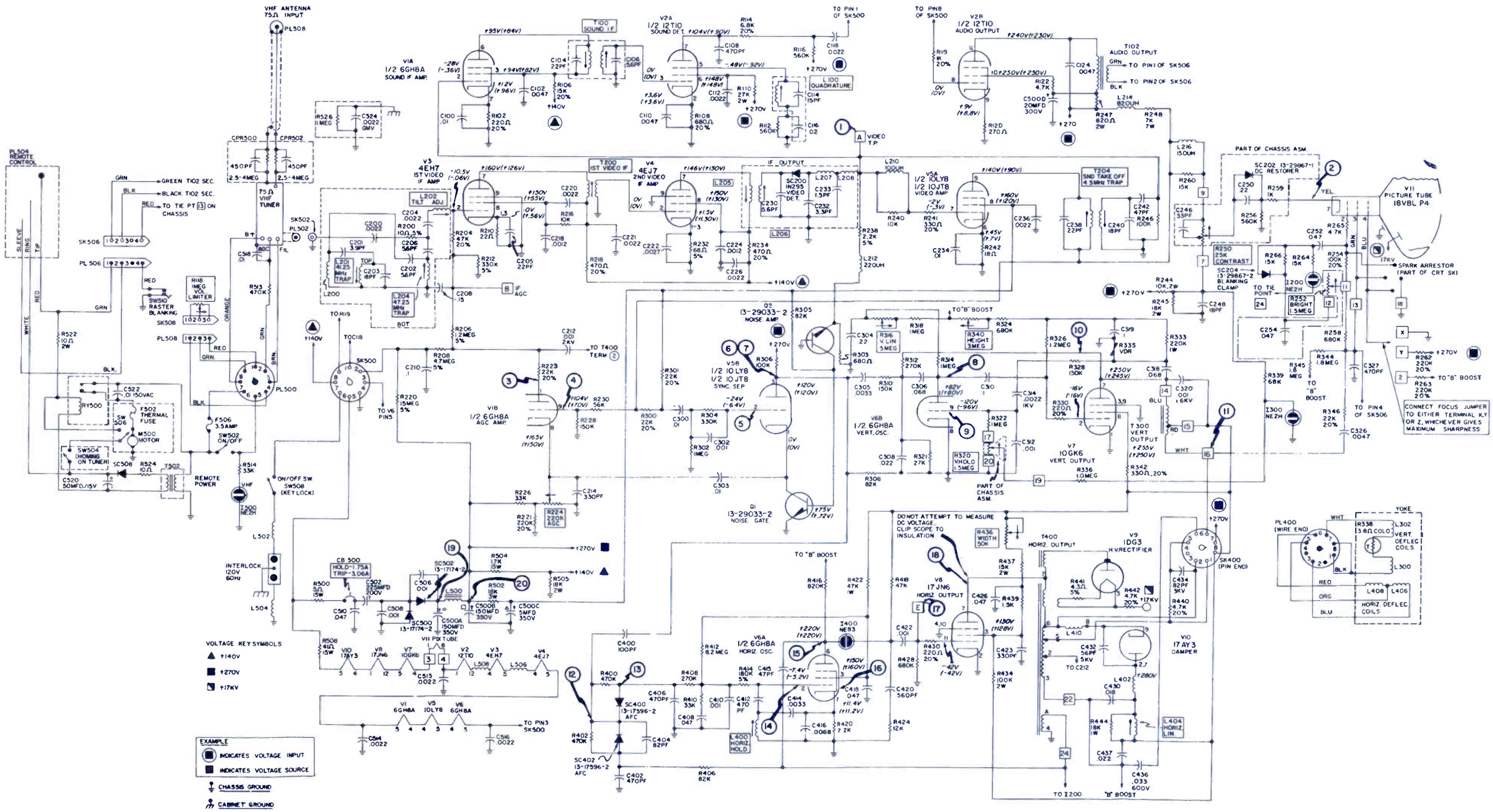
SYMBOL	DESCRIPTION	SYLVANIA PART NO.
C506	three section electrolytic	41-39071-1
A/B/C	10µf/200v, 50µf/200v, 100µf/250v	
R502	thermistor, PTC 20n cold	38-33206-1
L124	sound detect	50-33195-2
L202	44.5MHz 1F input	57-23827-5
L206	47.25MHz trap	57-23827-6
L234	detect input	50-37714-1
L242	45.75MHz pix detect	57-23832-5
L244	4.5MHz trap	50-35309-1
L400	flyback tuning	50-39163-1
L418	horiz freq	50-39121-1
L502	line choke	50-29833-3
L646	3.58 freq adj	50-39052-1
L648	tint centering	50-39053-1
SC448	damper	13-33172-1
SC504	+107v diode	13-17174-1
SC510	+17v diode	13-39073-1
SC650	perma-tint	13-17596-2
SCR430	HV & +27v shut down	13-18924-1
1C100	sound 1F detect	15-35059-1
1C300	horiz & vert divider	15-37701-1
1C302	vert driver	15-37534-1
1C400	horiz osc/noise inv/sync sep	15-37700-1
1C600	chroma processing	15-39075-1
1C602	chroma demod	15-37704-1
T100	4.5MHz sound input	50-39084-1
T400	high voltage xformer	50-39010-1
T440	horiz driver xformer	56-39101-1
T500	filament xformer	50-39078-1
CB500	circuit breaker	29-33346-13
DL920	delay line	32-37710-1
SW600	switch perma tint	33-16011-15
XT600	crystal 3.58MHz	26-39051-1
R112	on/off, vol	37-39081-1
R328	600K vert height	37-33036-17
R338	15K vert lin	part of R328
R462	10M focus	37-17320-8
R514	20K +107v adjust	37-33036-18
R616	5K color	37-15904-2
R634	25K color killer	37-14576-19
R636	25K tint	part of R616
R906	1K. contrast	37-15902-5
R908	50K brite	part of R906
R921	25K brite range	37-14576-19
R988	2.5M blue screen	37-33036-11
R990	2.5M green screen	part of R988
R992	2.5M red screen	part of R988
	tripler HV	32-39091-1
	VHF	54-37901-1

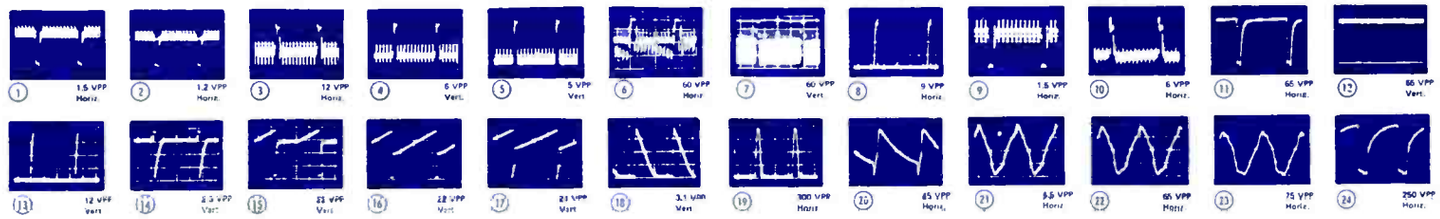

A
B
C
D
E
F
G
H
I
J
Q900 BRIGHT, 1ST LIM.
Q902 VID. AMP.
Q904 VIDEO DRIVER
Q906 RED OUT. AMP.
Q908 GRN. OUT. AMP.
Q910 BLU. OUT. AMP.
IC600 CHROMA PROCESSING
IC602 CHROMA DEMODULATOR
Q604 3.58MHz AMP
Q600 CHROMA AGC DET.
Q602 CHROMA AGC AMP
IC300 HORIZ. & VERT. DIVIDER
IC302 VERT. DRIVER
Q400 HORIZ. DRIVER
Q402 HORIZ. OUT.
Q404 HORIZ. BLANKER/BURST GATE SHAPER
Q300 BOT VERT. OUT
Q302 TOP VERT. OUT
Q102 AUD. DRIVER
Q104 AUD. OUT
Q106 AUD. OUT
Q504 +27V CURRENT LIMITER
SPEAKER 32Ω
13VAHP22
CRT SOCKET
CRT SOCKET PANEL
CRT HEATER
TO FOCUS (TRIPLER)
TO +22KV
MAIN PANEL
VOLTAGE DEPENDS ON SCREEN SETTING
CONVERGER ASSEMBLY
DEFLECTION/CONVERGENCE YOKE
VERTICAL WINDING
HORIZ. WINDING
QUADRAPOLE CONVERGENCE WINDING
CONVERGENCE PANEL
FERRITE BEAD
L800 5000UH
L802 100UH TO 380UH RIGHT R/B VERT.
L804 380UH LEFT R/B VERT.
SCR800
SCR802
SCR804
SCR806
SCR808
SCR810
SCR812
RB10 1Ω 1W
RB12 1Ω 1W
RB14 3Ω 2W BOT R/B VERT.
RB16 3Ω 2W TOP R/B VERT.
#13-17174-1
TRANSISTOR BASINGS
(* INDICATES ALTERNATE BASINGS)
#13-23824-1
#13-29033-3
#13-29778-1
#13-33178-2
#13-35807-1
#13-39114-1
#13-39118-1
#13-28033-3
#13-29778-1
#13-33178-2
#13-35807-1
#13-39114-1
#13-39118-1
#13-23824-1
#13-25824-1
#13-18924-1
#13-18924-1
#13-17174-1
#13-39098-1
#13-33178-1
#13-39098-1
METAL SURFACE
#13-39098-1
#13-39800-1
#13-33178-1
#13-33181-1
#13-39088-2
#13-33178-1
IC KEY (TOP VIEW)
OR
M.V. TRIPLER
TO CRT FOCUS (+9.4KV TO +4.5KV)
TO BRIGHT LIM. CIRCUIT
DO NOT ATTEMPT TO MEASURE
DO NOT MEASURE DC VOLTAGE
ON CHASSIS
ON CABINET
PART OF CONTROL PANEL
SEE NOTES
VIDEO
HORIZ. BLANKING
VERTICAL BLANKING
BURST
COLOR & BURST PROCESSING
CHROMA AGC DET.
CHROMA AGC AMP
HORIZ. DRIVER
HORIZ. OUT.
FLYBACK TUNING
HORIZ. FREQ. ADJ.
VERT. DRIVER / AMP.
TOP VERT. OUT
BOT VERT. OUT
+24V SOURCE
+27V SOURCE
+107V SOURCE
+17V SOURCE
+22KV SOURCE
TO +24V
TO +27V
TO +107V
TO +200V
TO +290V
TO +540V (+300V)
TO +640V (+520V)
TO +360V (+320V)
TO +590V (+560V)
TO +300V (+300V)
TO +9.4KV TO +4.5KV
TO +22KV
TO MAIN PANEL
TO CRT SOCKET
TO CRT HEATER
TO FOCUS (TRIPLER)
TO BRIGHT LIM. CIRCUIT
TO MAIN PANEL
TO CRT FOCUS
TO MAIN PANEL
TO MAIN PANEL
TO MAIN PANEL

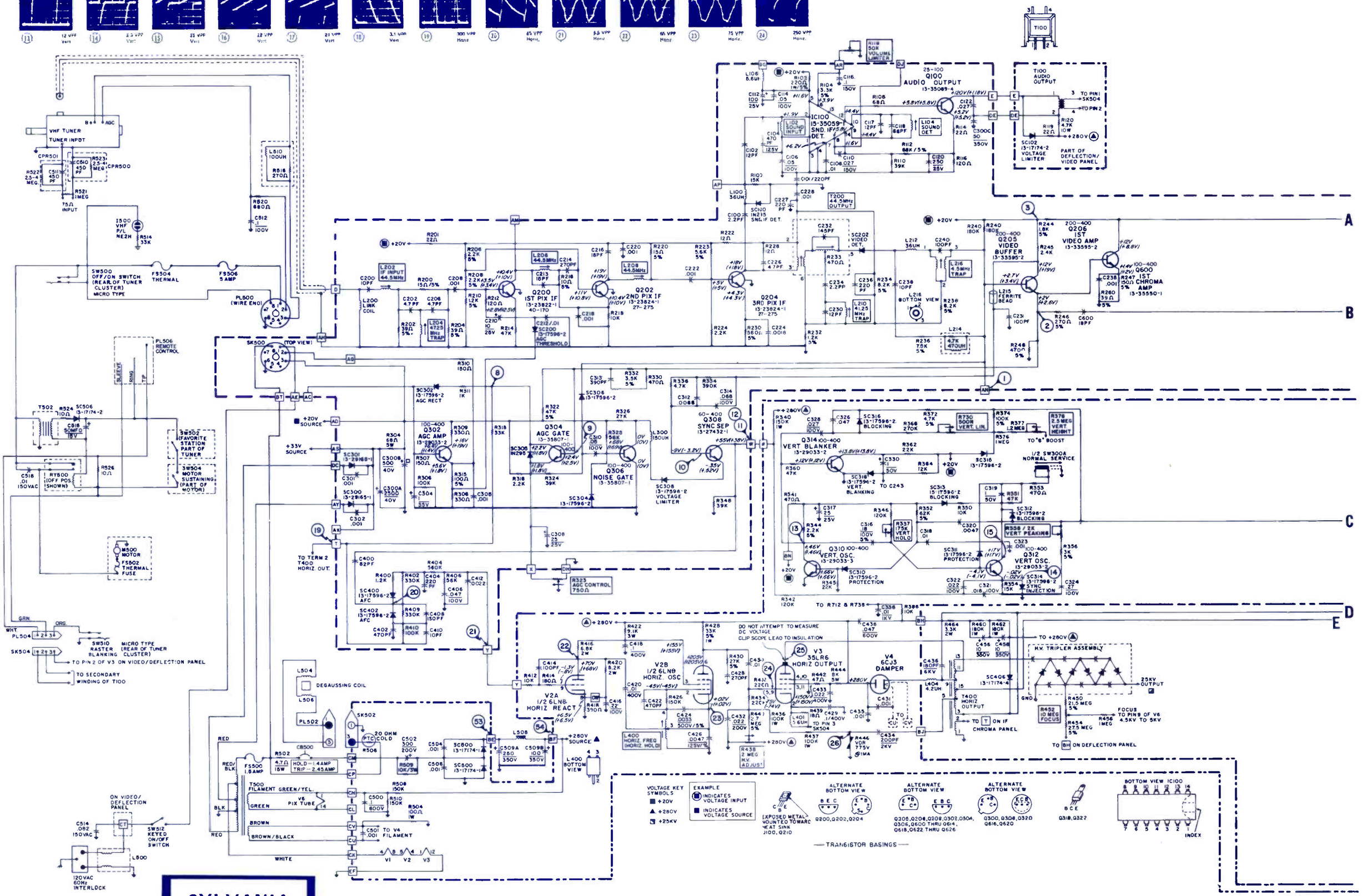
SYLVANIA
Color-TV Chassis
B10-19



SYMBOL	DESCRIPTION	SYLVANIA PART NO.
L102	sound input	50-35989-1
L500	choke power line	50-29833-3
T400	horiz output	50-35345-1
T500	filament	55-33937-1
T502	LV power	55-11121-1
SC608	varicap	13-29777-2
CB500	circuit breaker	29-33346-12
FS506	fuse 5a	29-91256-7
	tripler asm high voltage	32-33057-4





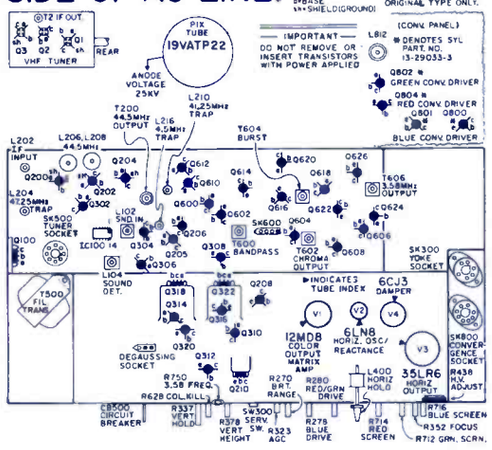


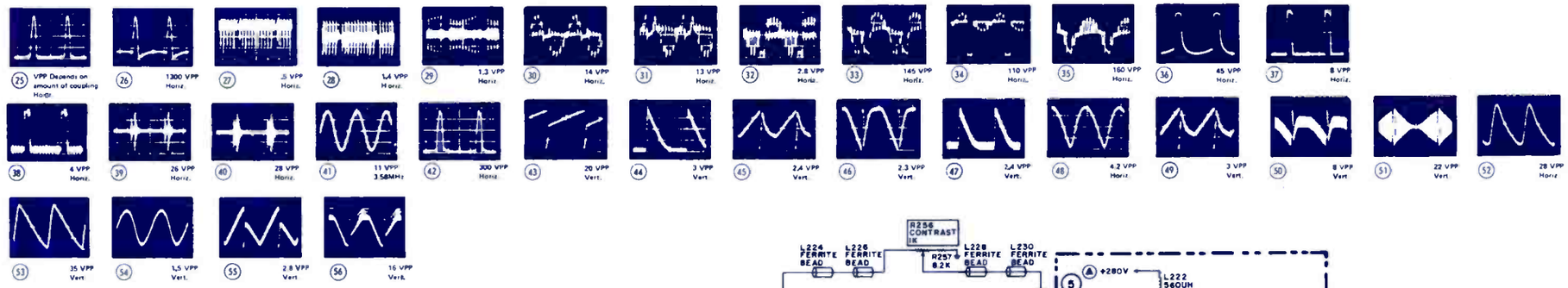
SYLVANIA

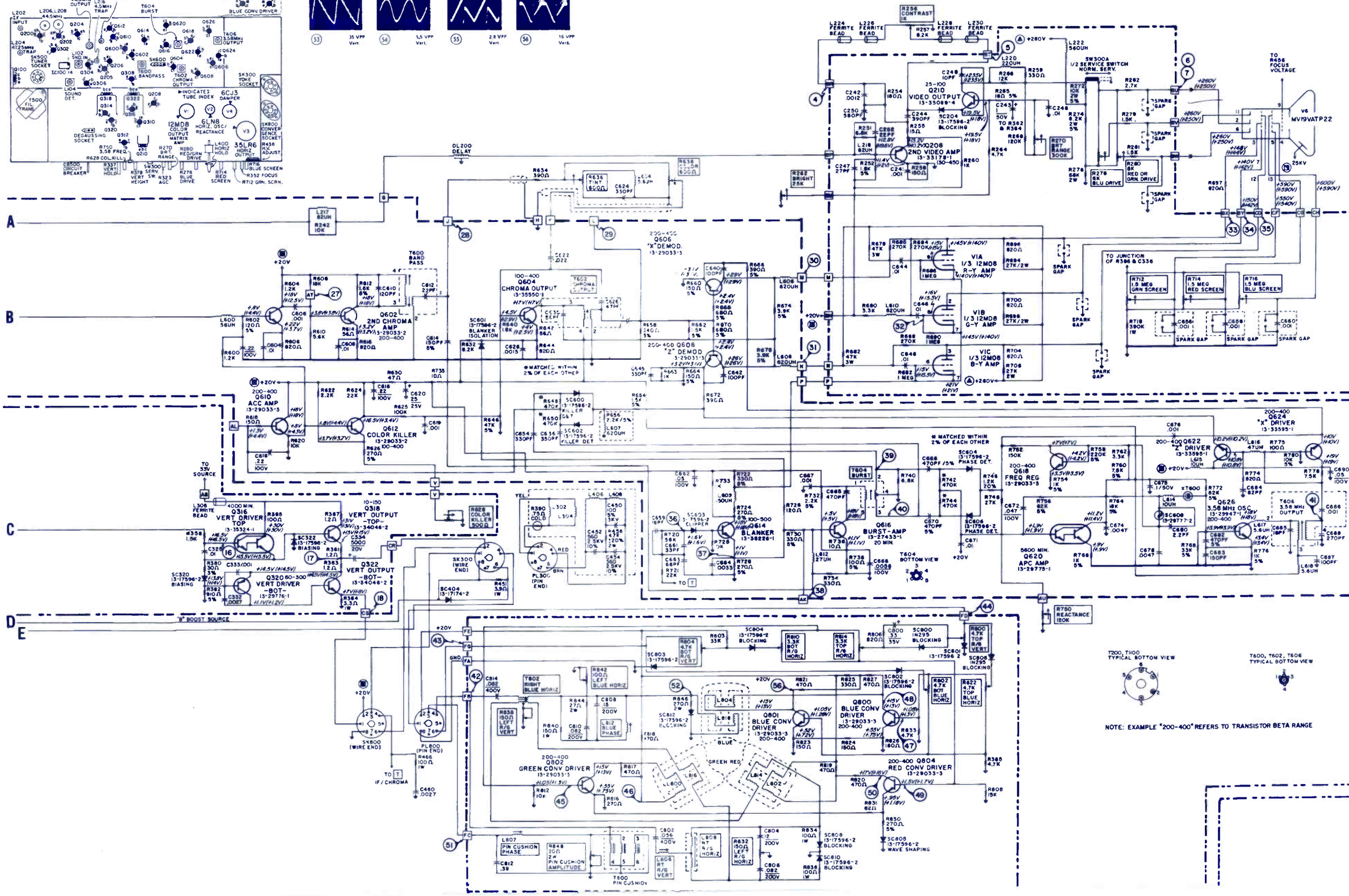
Color-TV Chassis
D19-10

TRANSISTOR LAYOUT (D19-10 CH.)

CHASSIS CONNECTED TO ONE SIDE OF AC LINE.





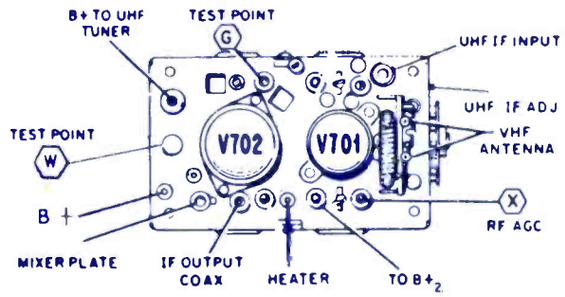


SAFETY NOTICE

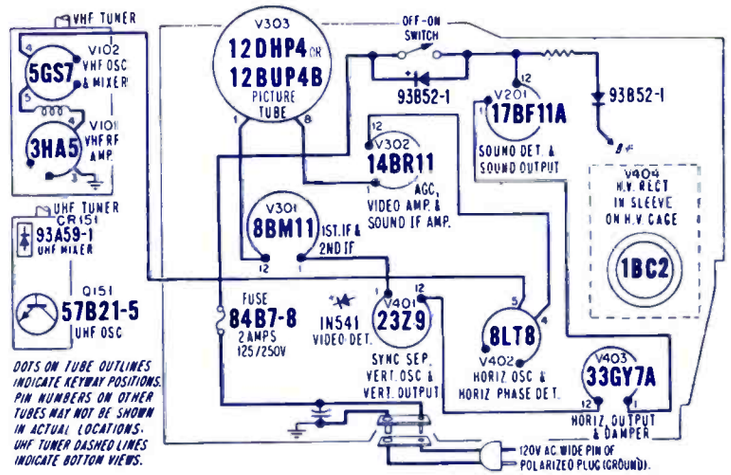
THE DESIGN OF THIS RECEIVER CONTAINS MANY CIRCUITS AND COMPONENTS INCLUDED SPECIFICALLY FOR SAFETY PURPOSES. FOR CONTINUED PROTECTION, NO CHANGES SHOULD BE MADE TO THE ORIGINAL DESIGN. REPLACEMENT PARTS MUST BE IDENTICAL TO THOSE USED IN THE ORIGINAL CIRCUIT. SERVICE SHOULD BE PERFORMED BY QUALIFIED PERSONNEL ONLY.

MODEL CHART

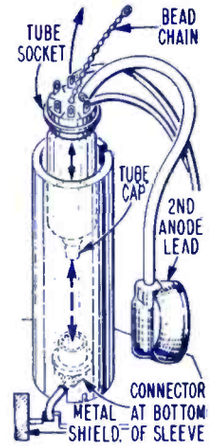
MODEL	COLOR	TUNER	CHASSIS
T12P800	BLACK	VHF 94A363-1	T9H1-1A
T12P817	WALNUT	UHF 94A361-1	



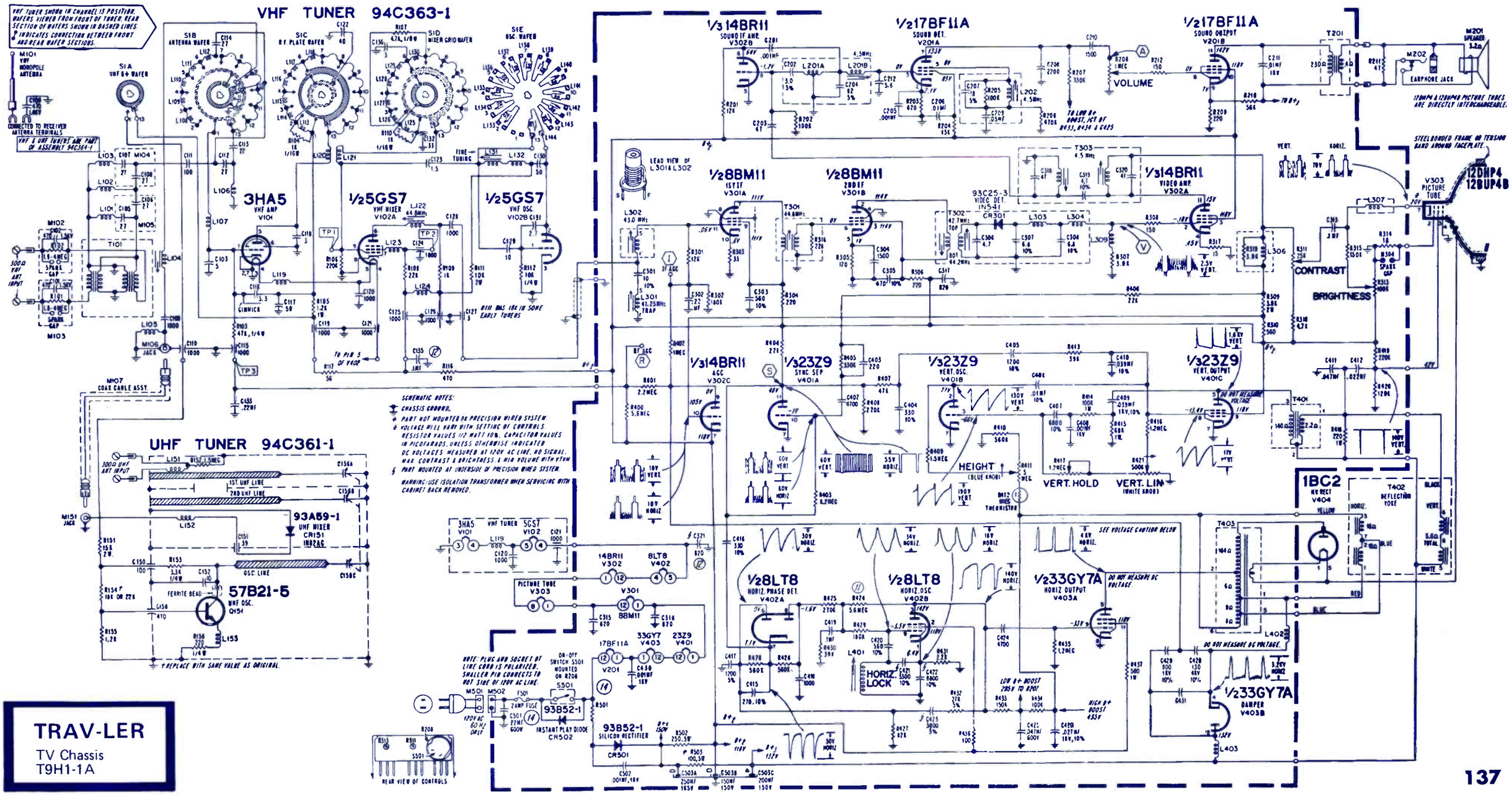
TOP DRAWING OF VHF TUNER



TUBE LOCATION CHART



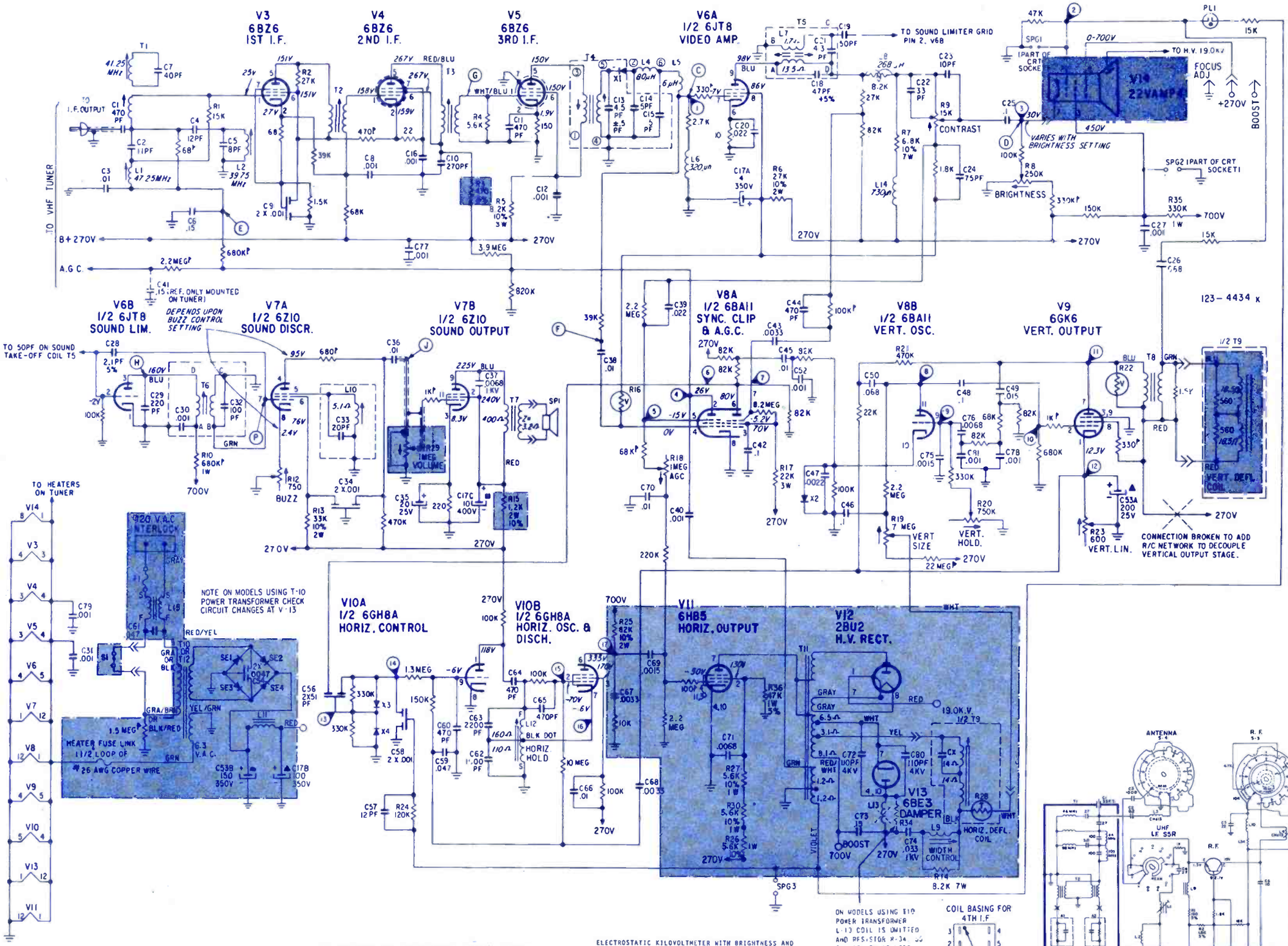
HIGH VOLTAGE RECTIFIER HOUSING

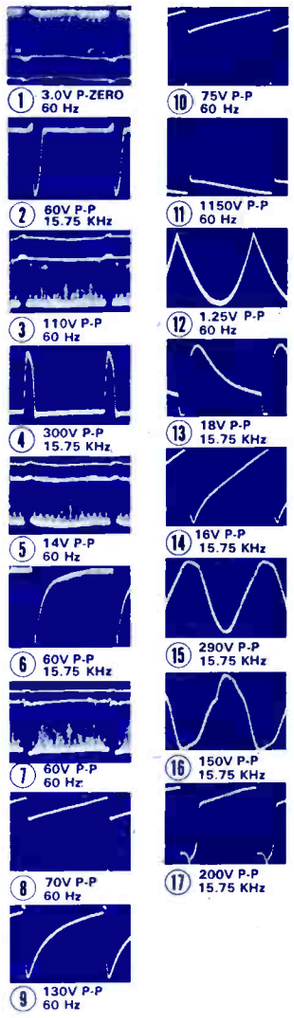

VHF TUNER 94C363-1
VHF TUNER SHOWN IN CHANNEL 13 POSITION. WAFERS VIEWED FROM FRONT OF TUNER, REAR SECTION OF WAFERS SHOWN IN DASHED LINES. * INDICATES CONNECTION BETWEEN FRONT AND REAR WAFER SECTIONS.
M101 VHF MONOPOLE ANTENNA
CONNECTED TO RECEIVER ANTENNA TERMINALS
VHF & UHF TUNERS ARE PART OF ASSEMBLY 94C364-1
S1A UHF B+ WAFER
S1B ANTENNA WAFER
S1C R.F. PLATE WAFER
S1D MIXER GRID WAFER
S1E OSC WAFER
3HA5 VHF AMP V101
1/25GS7 VHF MIXER V102A
1/25GS7 VHF OSC V102B
FINE TUNING
GIMMICK
TO PIN 5 OF V402
TP1
TP2
TP3
M102
M103
M104
M105
M106 JACK
M107 COAX CABLE ASSY.
T101
L101
L102
L103
L104
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R101
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R139
R140

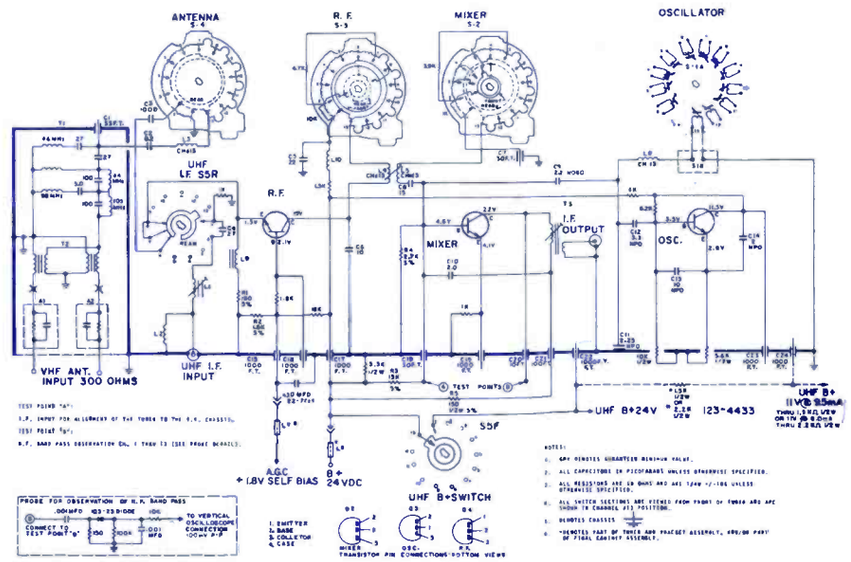
ZENITH

TV Chassis
22DB36

SYMBOL	DESCRIPTION	ZENITH PART NO.
C17A	4 µf elect cap, 350v	
C17B	100 µf elect cap, 350v	22-7138
C17C	10 µf elect cap, 400v	
C35A	200 µf elect cap, 25v	22-7137
C35B	150 µf elect cap, 350v	
R8	250K bright control	63-5380
R9	15K contrast control	63-6491
R12	750K buzz control	63-8719
R16	volt dependent resistor	63-5058
R19	7M vert size control	63-6433
R20	75K vert hold control	63-7185
R23	600K, vert lin control	63-8720
R29	1M volume control	63-9179
L4	detector series peaking coil	20-2002
L10	quad coil winding assembly	S-75409
L11	filter choke	95-3081
T5	sound take-off coil	S-86248
T7	audio output trans	95-2893
T8	vert output trans	95-2333
T9	yoke	95-2874
T10	power trans	95-3033
T11	horiz sweep trans	S-93755







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)



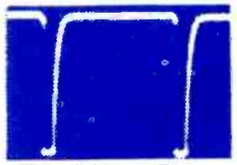
1 3.5V P-ZERO 60 Hz



2 60V P-PV 60 Hz



3 7V P-PV 60 Hz



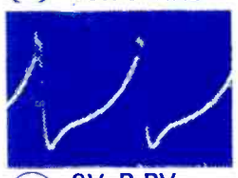
4 24V P-PV 15.75 KHz



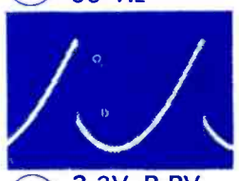
5 24V P-PV 60 Hz



6 32V P-PV 15.75 KHz



7 9V P-PV 60 Hz



8 3.2V P-PV 60 Hz



9 4.8V P-PV 60 Hz



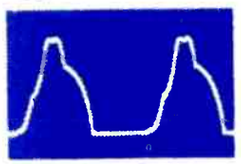
10 600V P-PV 60 Hz



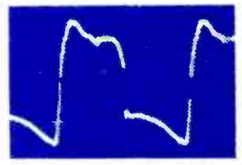
11 13V P-PV 60 Hz



12 16V P-PV 15.75 KHz



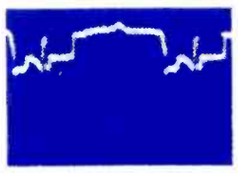
13 16V P-PV 15.75 KHz



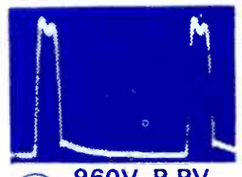
14 2.8V P-PV 15.75 KHz



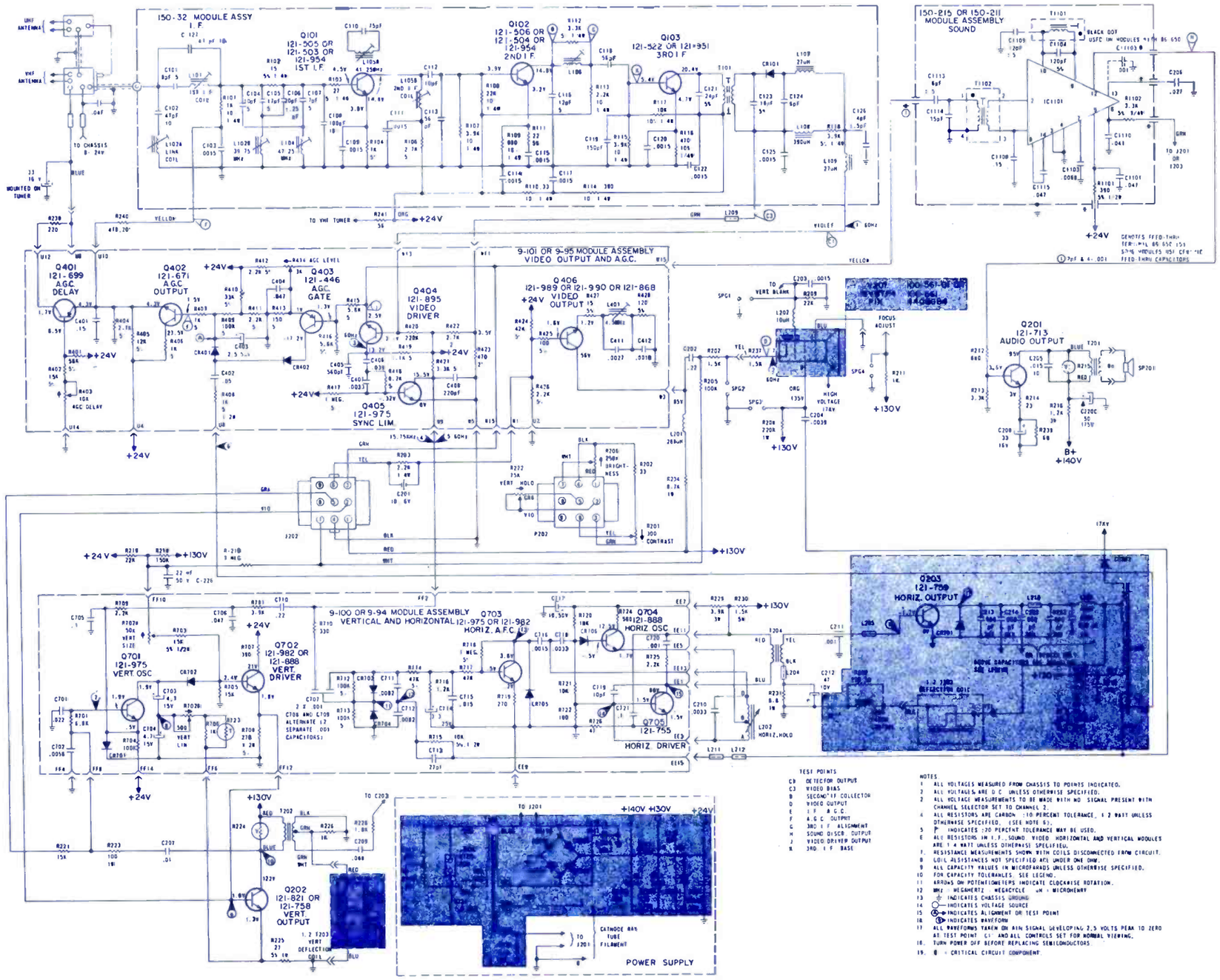
15 170V P-PV 15.75 KHz



16 36V P-PV 15.75 KHz



17 960V P-PV 15.75 KHz



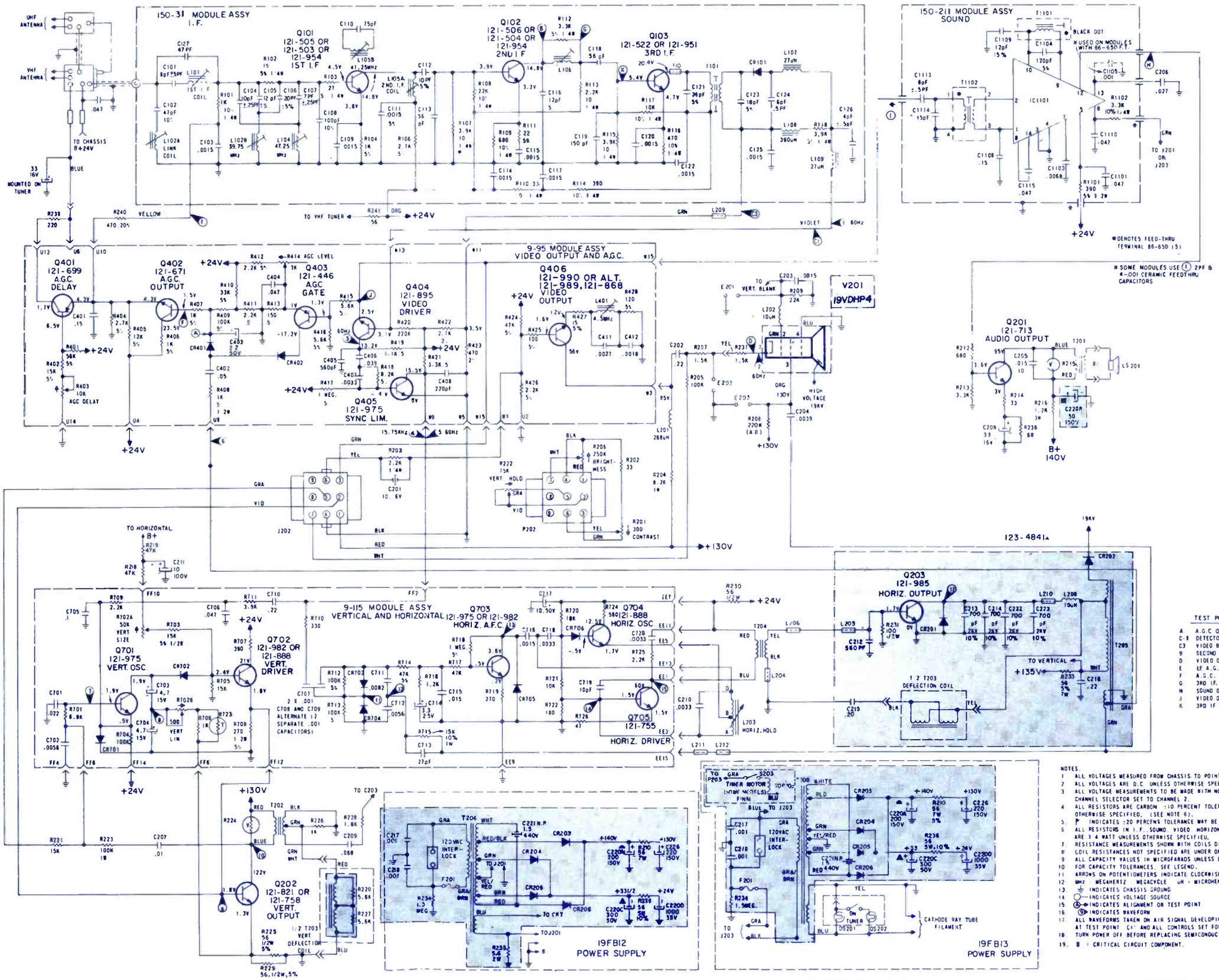
ZENITH

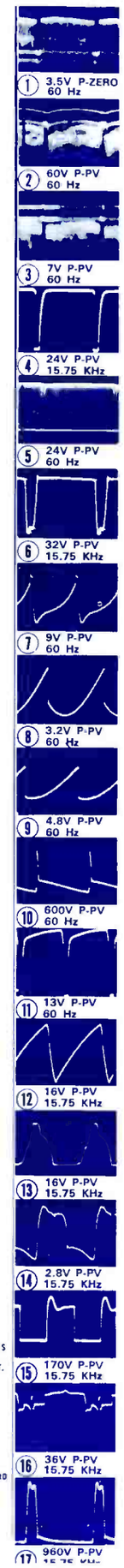
TV Chassis
16EB12/16EB12X

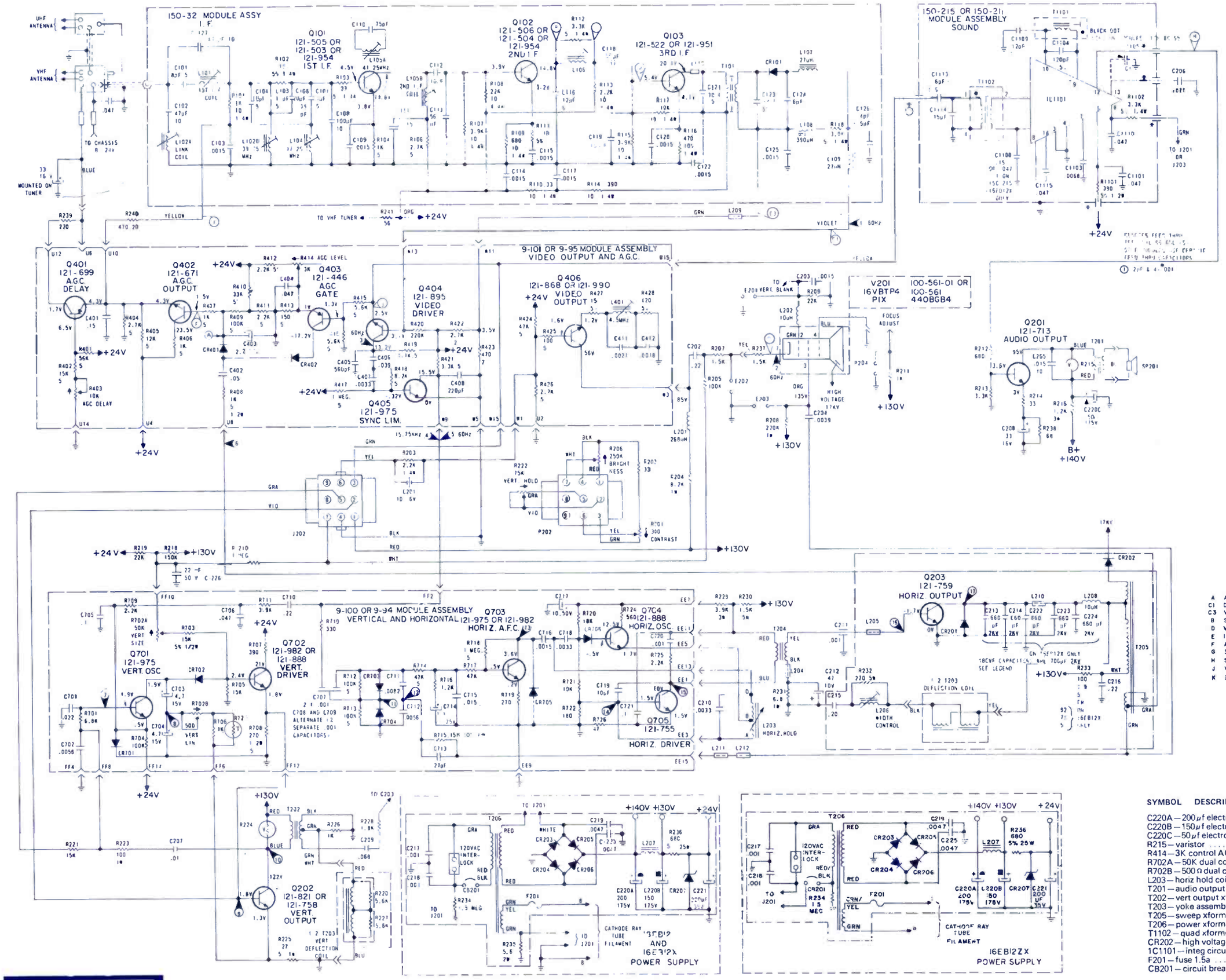
ZENITH

TV Chassis 19FB12, 13

SYMBOL	DESCRIPTION	ZENITH PART NO.
C220A	—200μf elect capacitor 150v	22-7314
C220B	—50μf elect capacitor 150v	22-7314
C220C	—300μf elect capacitor 50v	22-7314
C220D	—1000μf elect capacitor 35v	22-7314
R215	—varistor	63-5440
R224	—varistor	63-10281
R723	—thermistor	63-10290
L203	—horiz hold coil	95-3100
T201	—audio output xformer	95-3120
T202	—vert output xformer	95-3094-01
T203	—yoke assembly	S94147-01
T205	—horiz output xformer	S-97079
T1102	—quad xformer	95-2620
CR202	—high volt rectifier	103-258
IC1101	—integ circuit	221-48
F201	—fuse .61 slo blo	136-108







SYMBOL	DESCRIPTION	ZENITH PART NO.
C220A	200 µf electrolytic cap 175v	22-7201
C220B	150 µf electrolytic cap 175v	22-7201
C220C	50 µf electrolytic cap 175v	22-7201
R215	varistor	63-5440
R414	3K control AGC level	63-10148
R702A	50K dual control vert size	63-10225-01
R702B	500 Ω dual control vert lin	63-10225-01
L203	horiz hold coil	95-3100
T201	audio output xformer	95-3120
T202	vert output xformer	95-3094
T203	yoke assembly	95-3126
T205	sweep xformer	S-94397
T206	power xformer	95-3131
T1102	quad xformer	95-2789
CR202	high voltage rectifier	103-239-02
1C1101	integ circuit	221-48
F201	fuse 1.5a	136-29
CB201	circuit breaker 1.2a	85-976-03

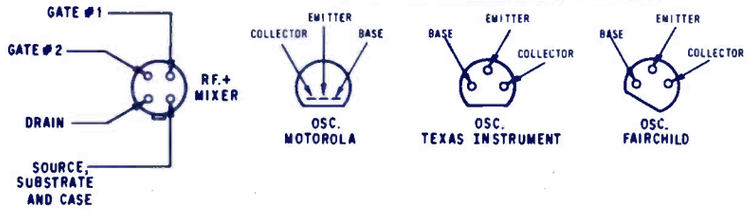
ZENITH

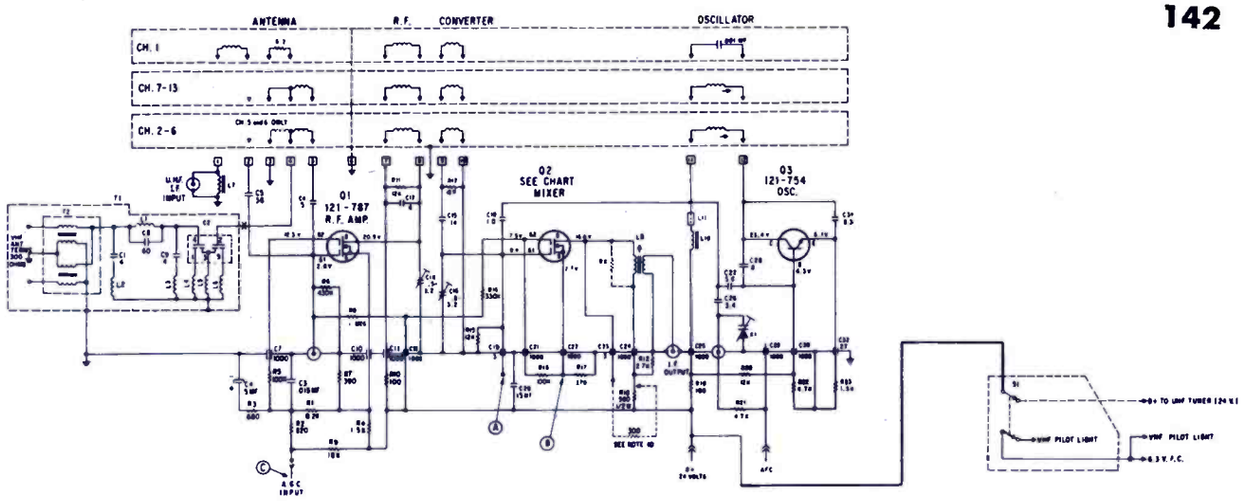
TV Chassis
16EB12X, ZX

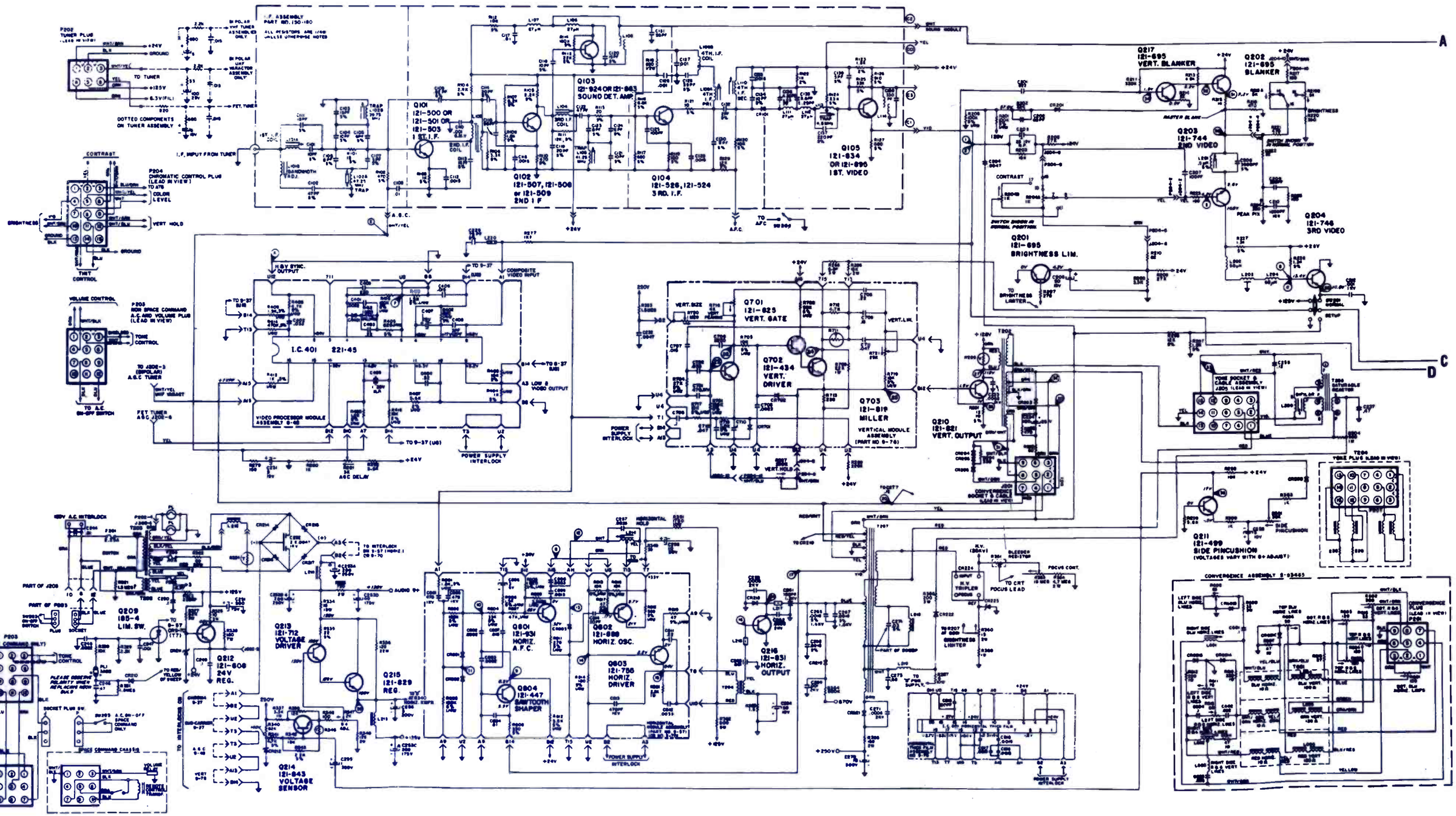
ZENITH

Color-TV Chassis
25DC57

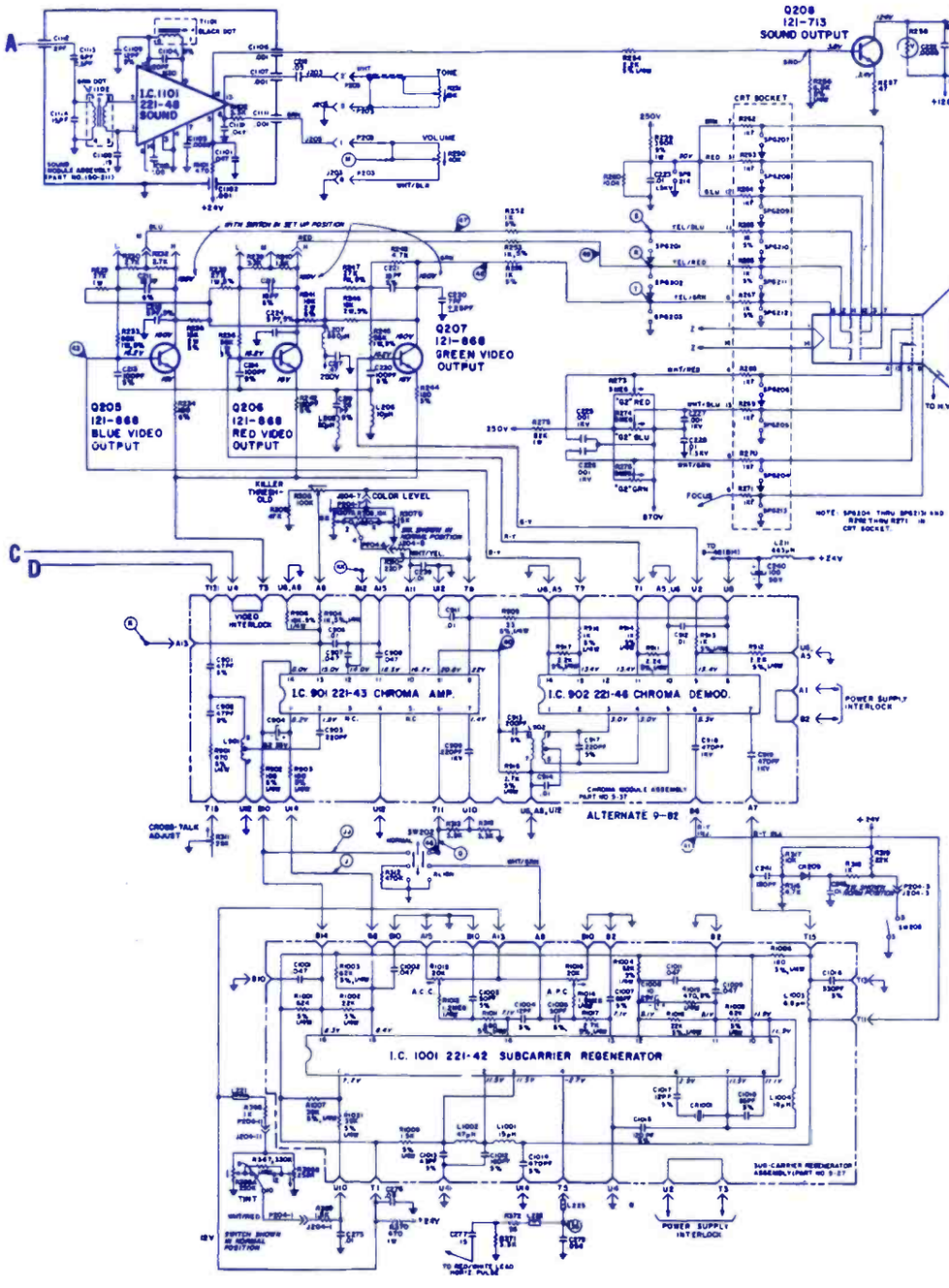
TRANSISTOR LEAD LOCATIONS





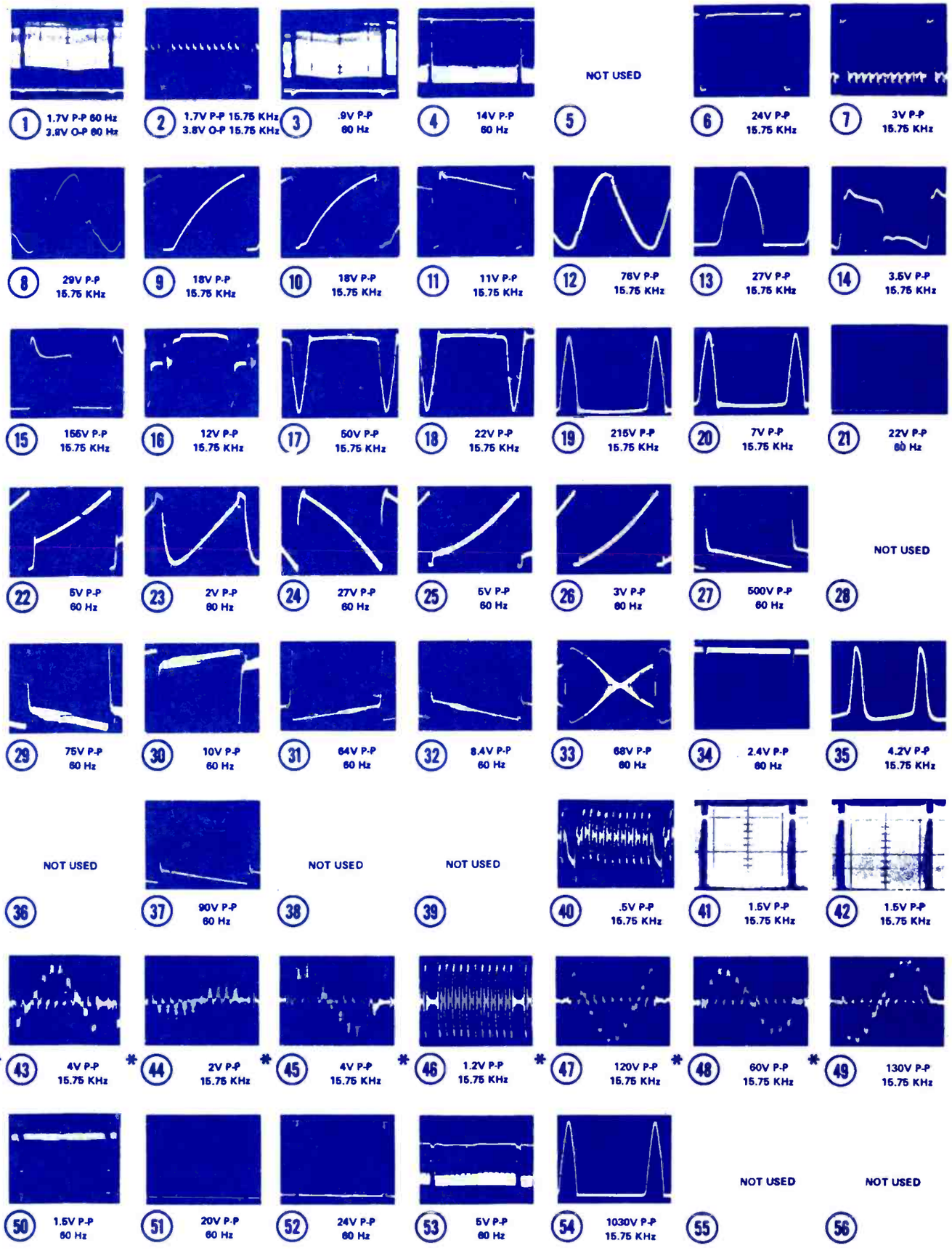


SYMBOL	DESCRIPTION	ZENITH PART NO.
C263A	280 µf electr cap 250 v	22-6346
C263B	200 µf electr cap 250v	
C263C	300 µf electr cap 175v	
C263D	40 µf electr cap 175v	
R324	thermistor	63-0607
R363	15M, focus control	63-9967
R711	thermistor	63-8788
R1013	20K, A.C.C. control	63-8576
L105	41.25MHz trap	20-3287
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	95-2880 or
	(not interchangeable)	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



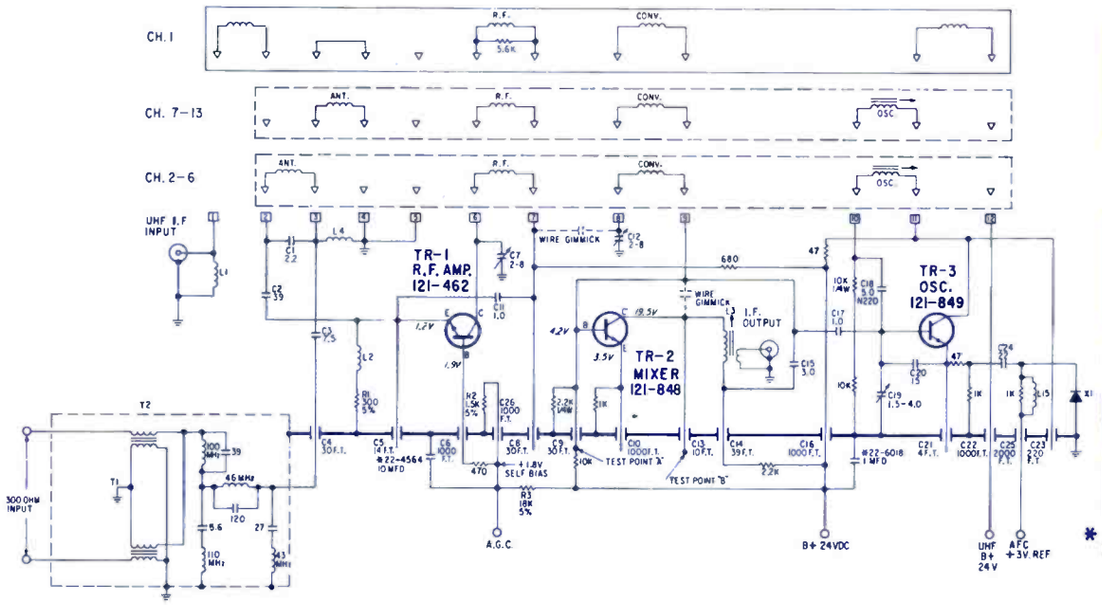
ZENITH
Color-TV Chassis
25DC57

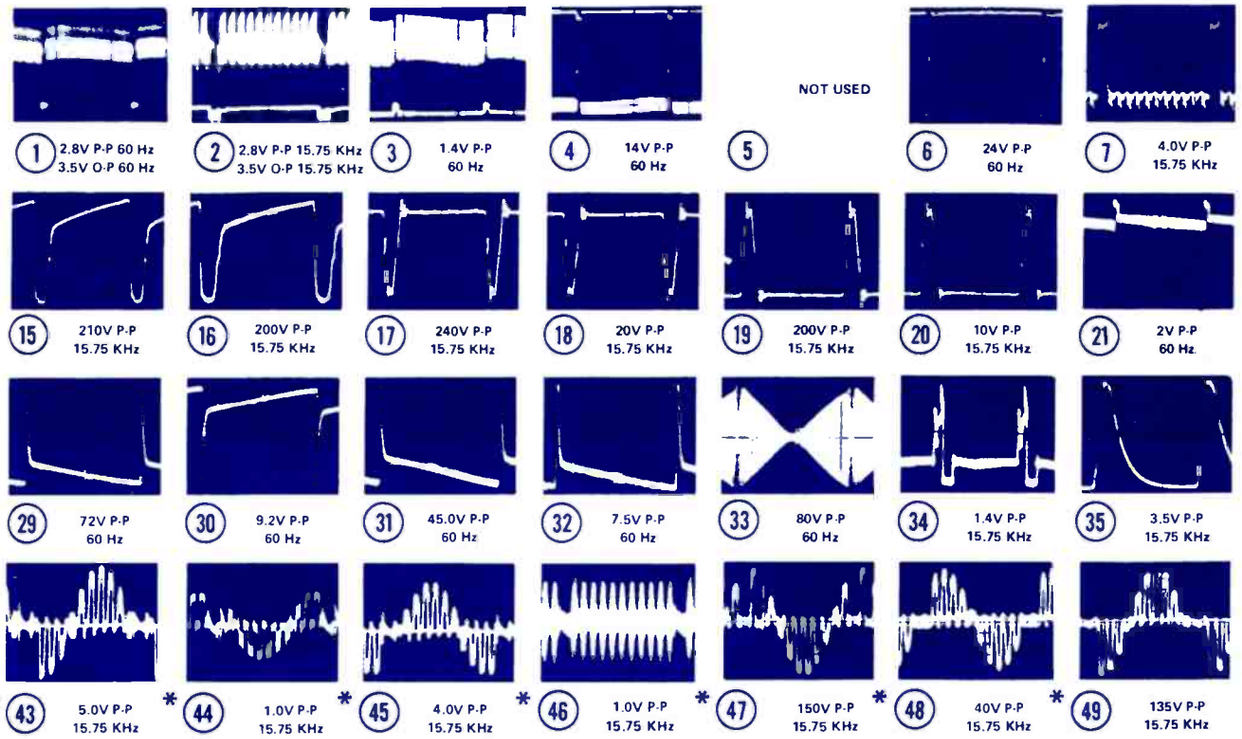
*** FOR WAVEFORMS 43 THROUGH 49, BYPASS TEST POINT "D" WITH 1.0 MF CAPACITOR.**

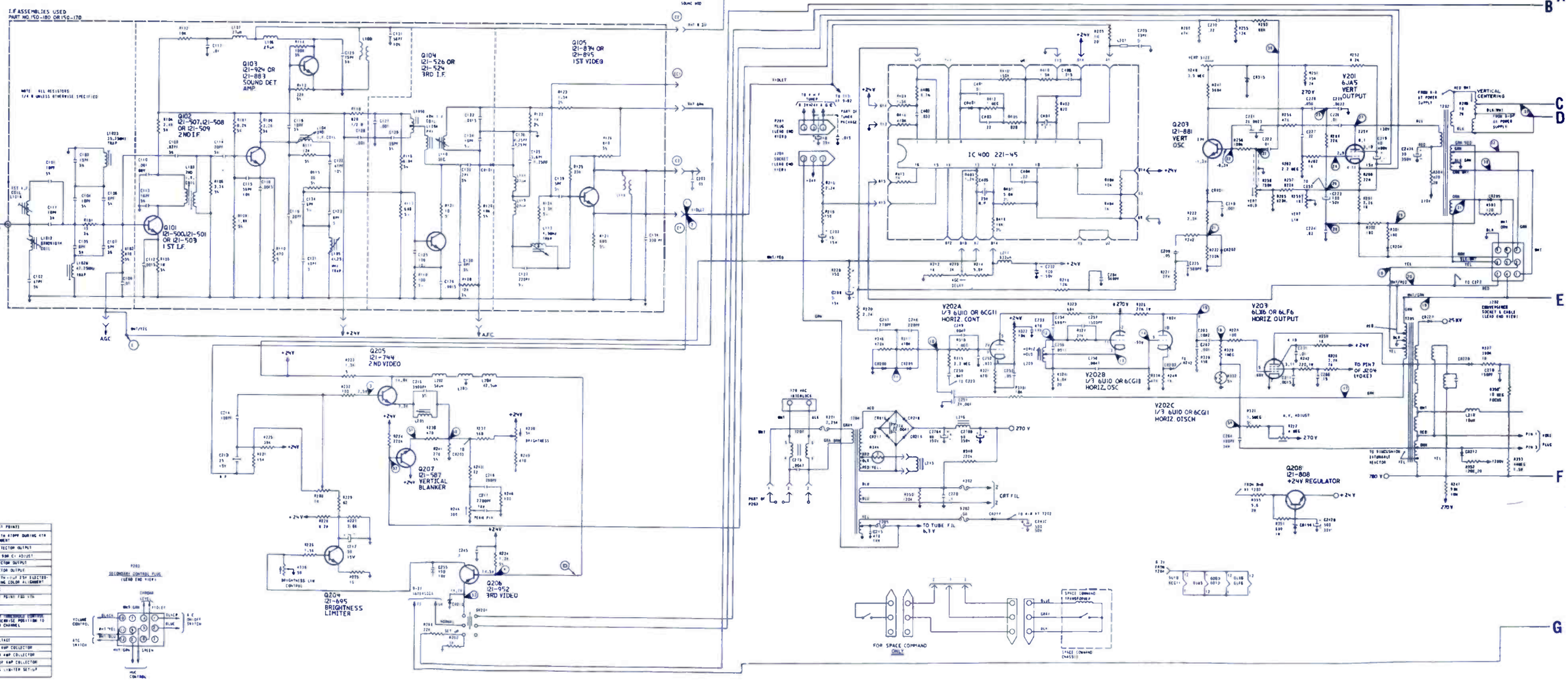


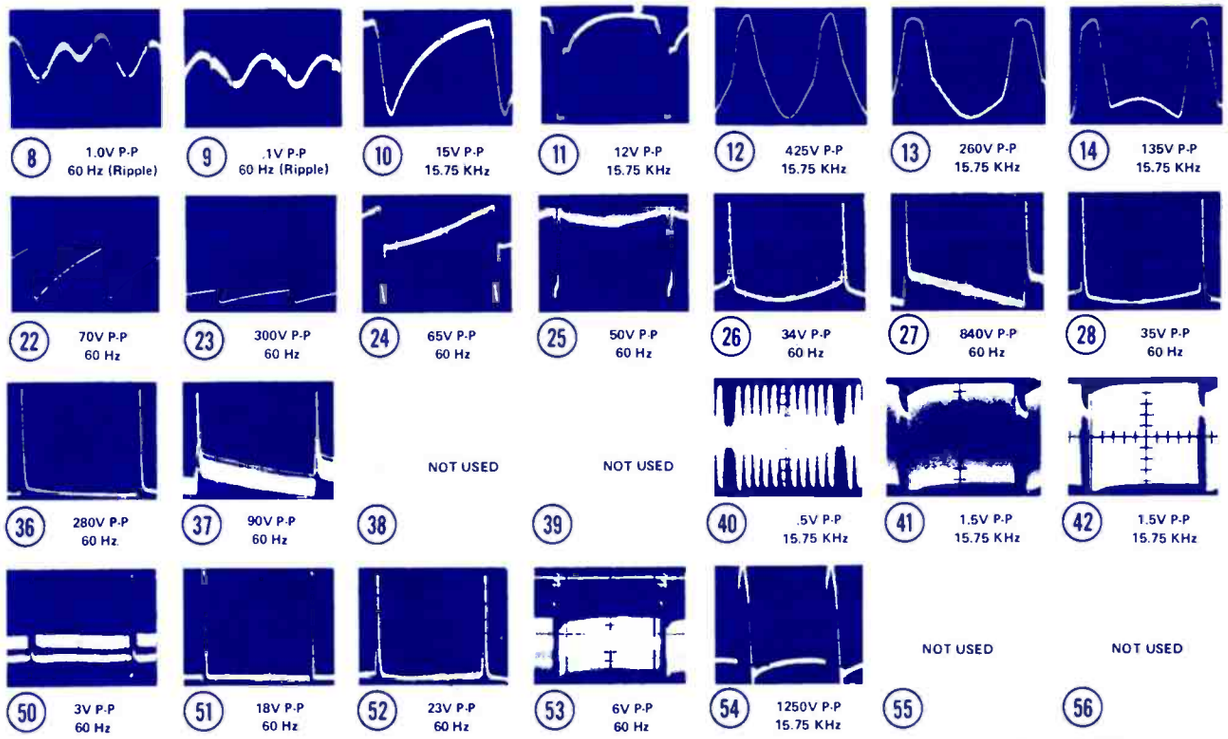
ZENITH

Color-TV Chassis
19DC21

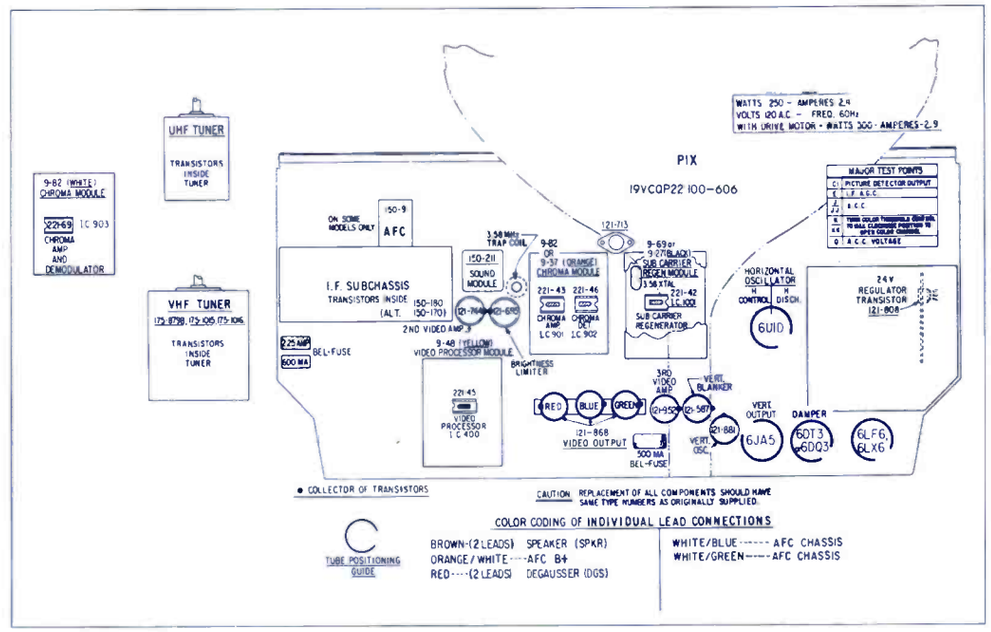


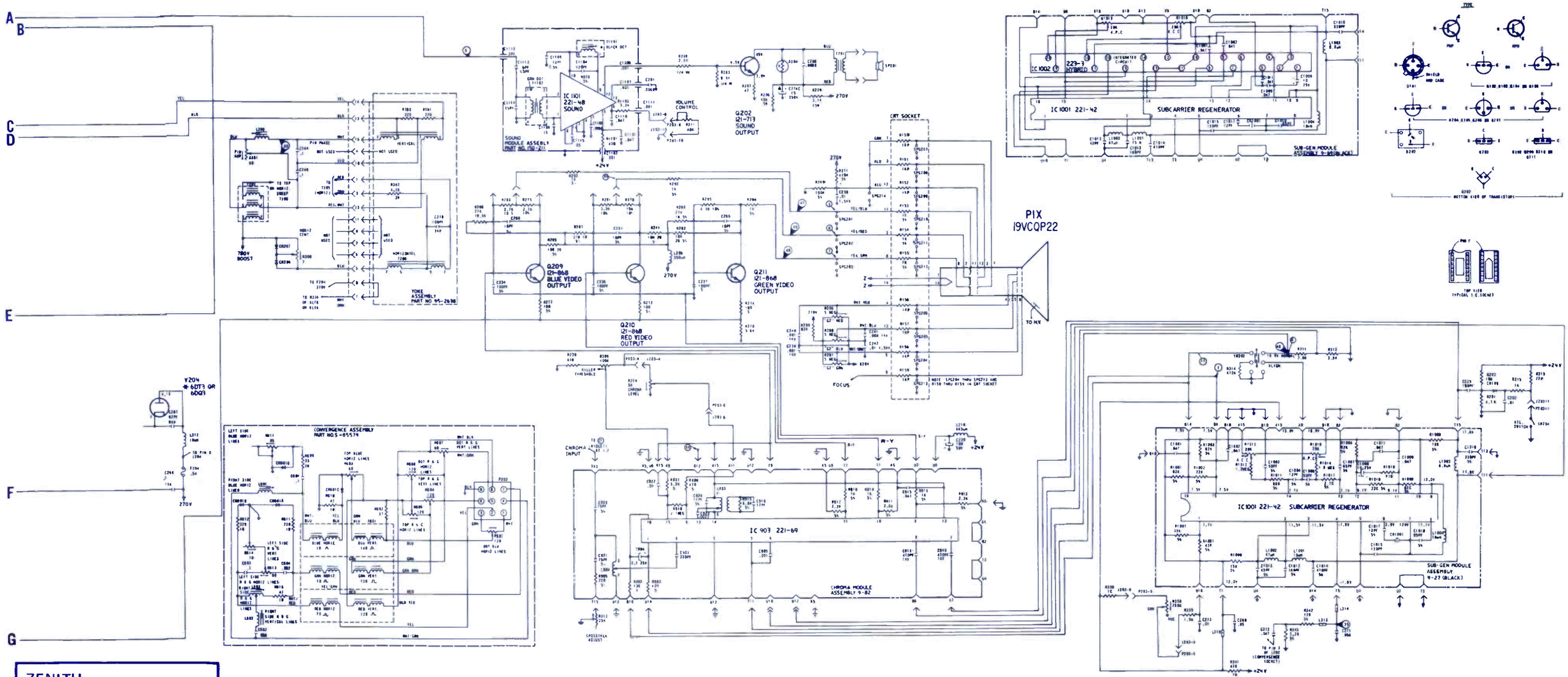






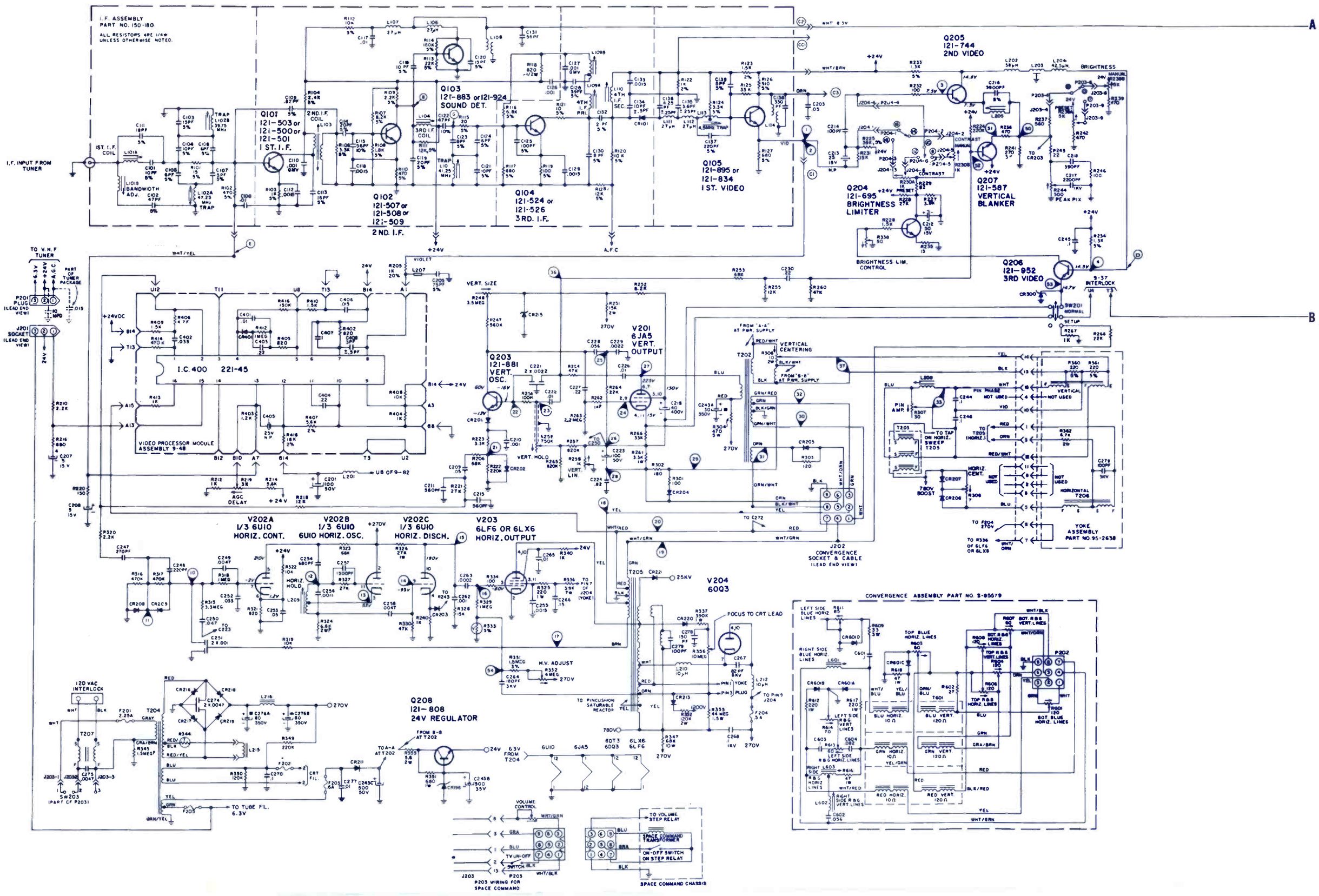
* FOR WAVEFORMS 43 THROUGH 49, BYPASS TEST POINT "D" WITH 1.0 MF CAPACITOR.

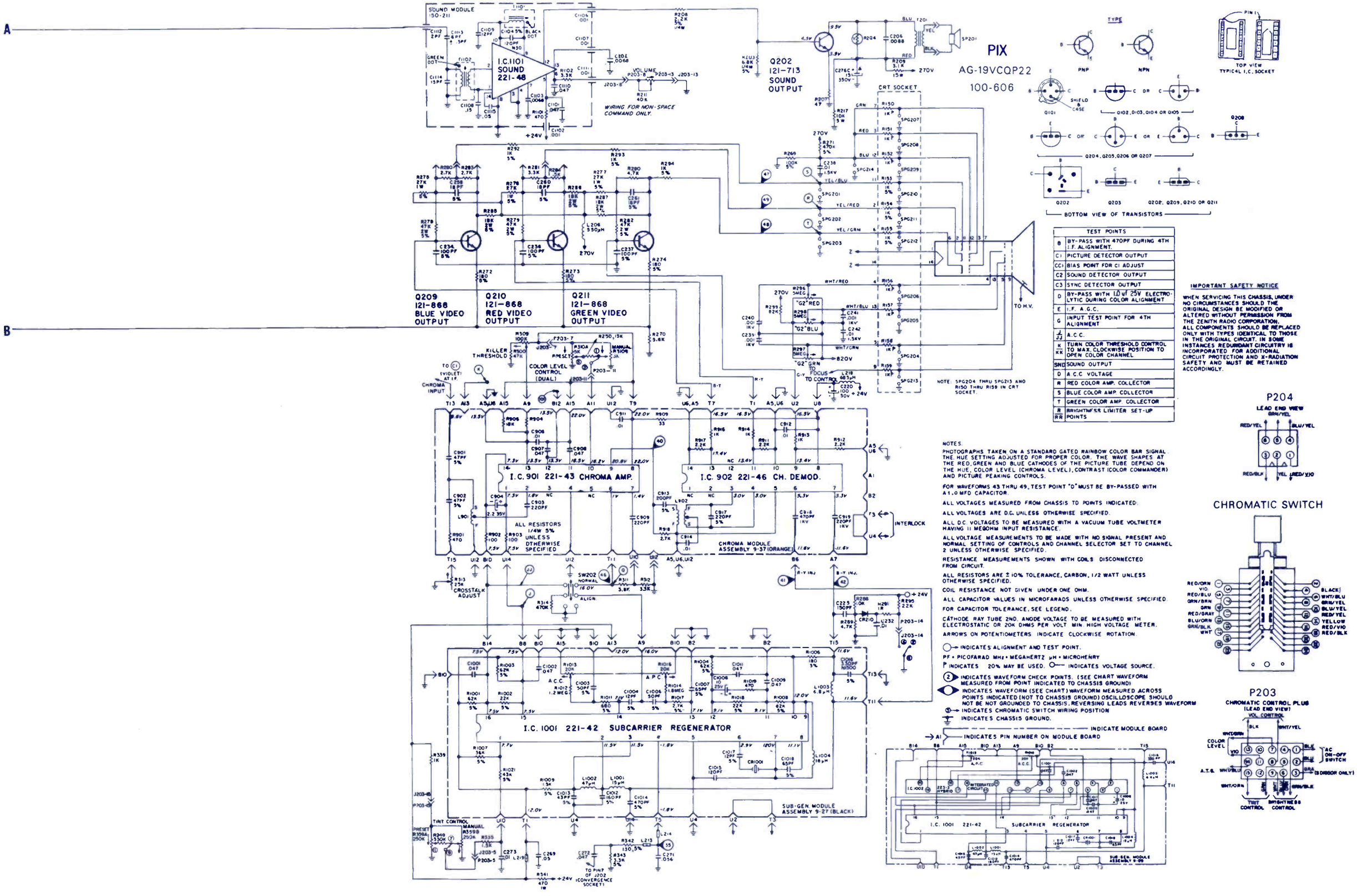




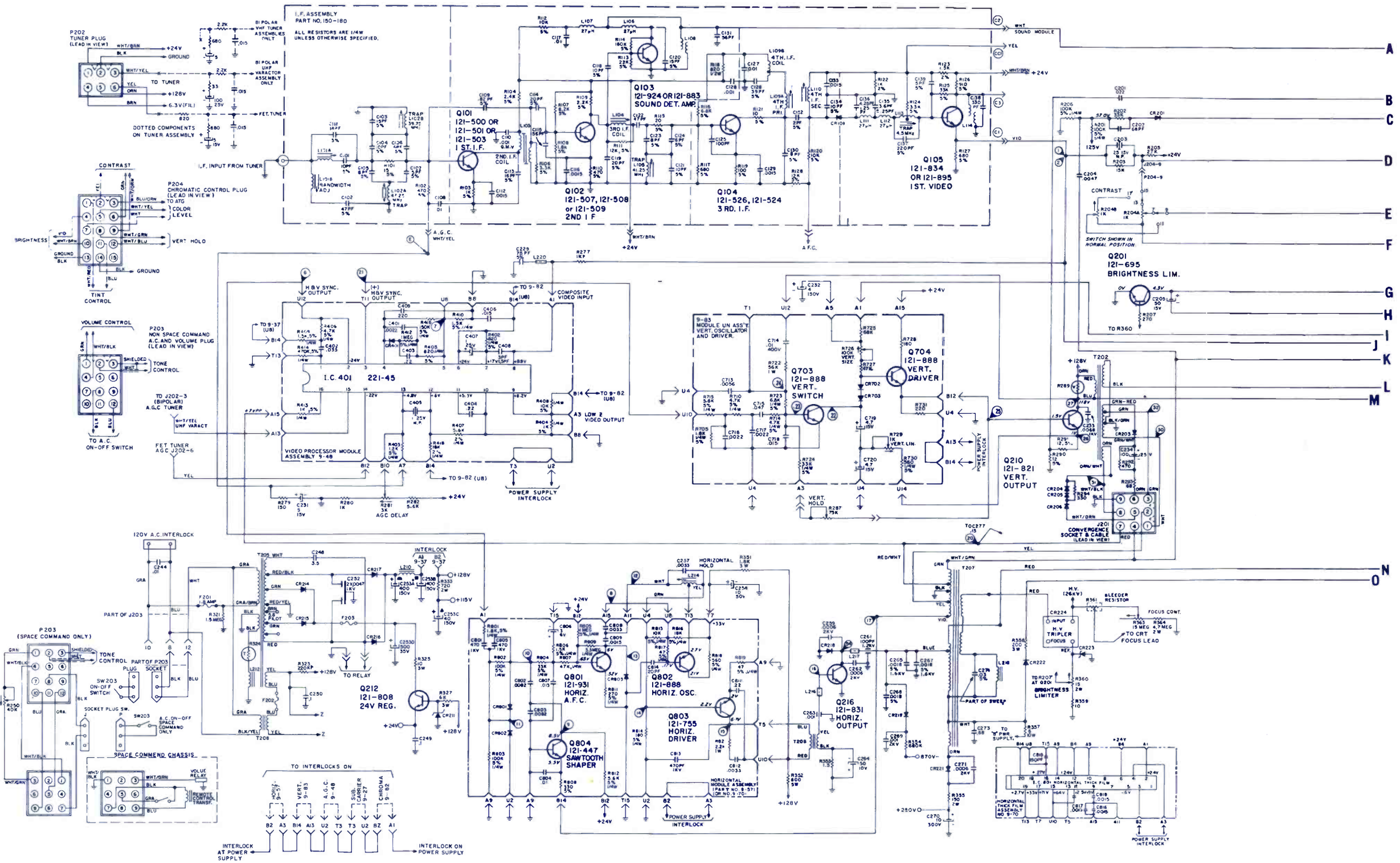
ZENITH
Color-TV Chassis
19DC21

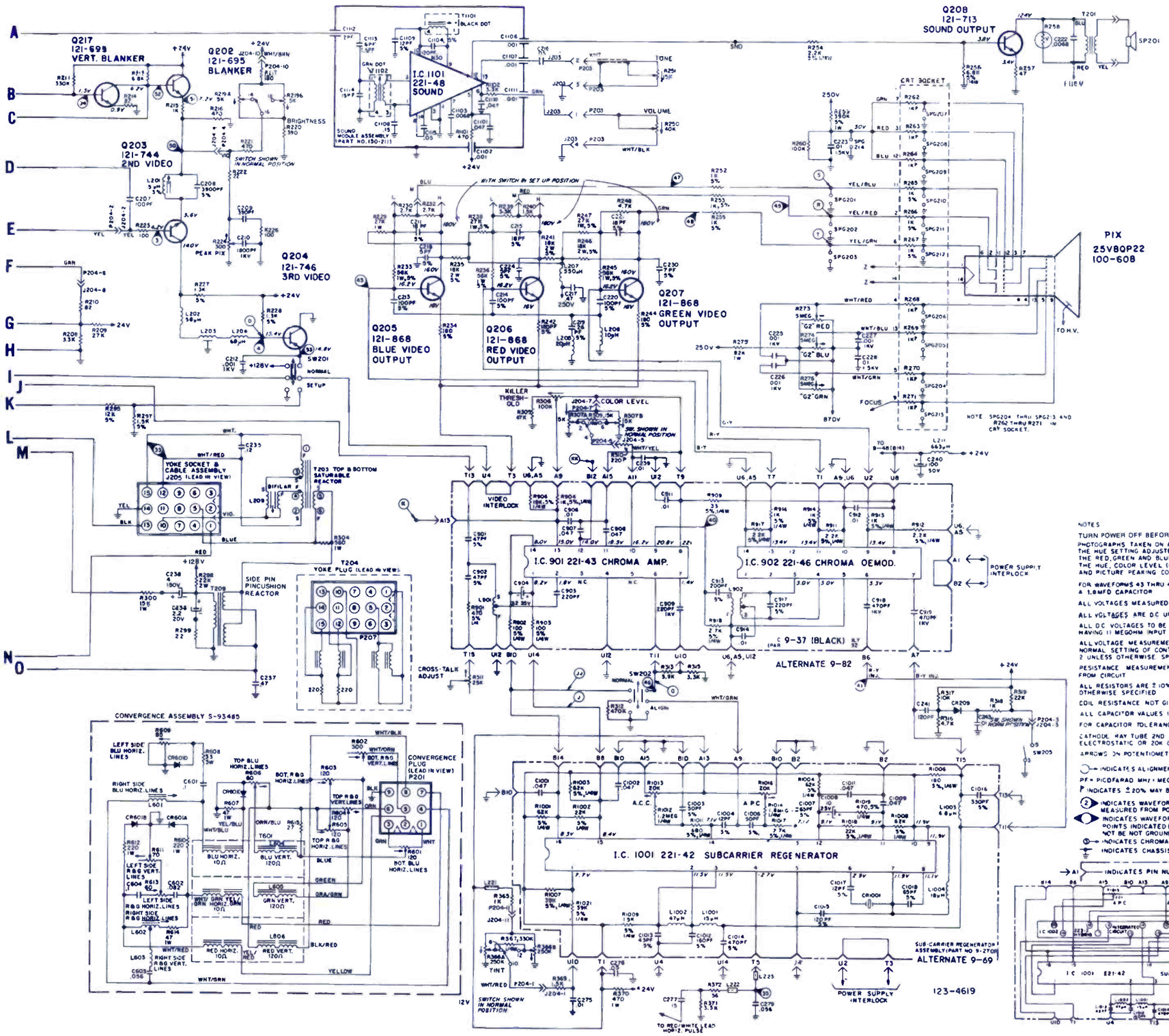
ZENITH
Color–TV Chassis
19DC11




A
B
SOUND MODULE 150-211
I.C.1101 SOUND 221-48
WIRING FOR NON-SPACE COMMAND ONLY.
VOLUME
+24V
Q202 121-713 SOUND OUTPUT
PIX
AG-19VCQP22
100-606
CRT SOCKET
TO H.V.
Q209 121-868 BLUE VIDEO OUTPUT
Q210 121-868 RED VIDEO OUTPUT
Q211 121-868 GREEN VIDEO OUTPUT
KILLER THRESHOLD
COLOR LEVEL CONTROL (DUAL)
MANUAL R310B
CHROMA INPUT
I.C. 901 221-43 CHROMA AMP.
I.C. 902 221-46 CH. DEMOD.
ALL RESISTORS 1/4W 5% UNLESS OTHERWISE SPECIFIED
CHROMA MODULE ASSEMBLY 9-37 (ORANGE)
INTERLOCK
CROSSTALK ADJUST
I.C. 1001 221-42 SUBCARRIER REGENERATOR
SUB-GEN. MODULE ASSEMBLY 9-27 (BLACK)
TINT CONTROL
MANUAL R359B
PRESET R359A
TO PIN 7 OF J202 (CONVERGENCE SOCKET)
TYPE
PNP
NPN
TOP VIEW TYPICAL I.C. SOCKET
Q101
Q102, Q103, Q104 OR Q105
Q204, Q205, Q206 OR Q207
Q208
Q202
Q203
Q202, Q209, Q210 OR Q211
BOTTOM VIEW OF TRANSISTORS
NOTE: SPG204 THRU SPG213 AND R150 THRU R159 IN CRT SOCKET.
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 10 uf 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
SND SOUND OUTPUT
O 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
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.
P204
LEAD END VIEW
CHROMATIC SWITCH
P203
CHROMATIC CONTROL PLUG (LEAD END VIEW)
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 1.0 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.
INDICATES WAVEFORM CHECK POINTS. (SEE CHART WAVEFORM MEASURED FROM POINT INDICATED TO CHASSIS GROUND)
INDICATES WAVEFORM (SEE CHART) WAVEFORM MEASURED ACROSS POINTS INDICATED (NOT TO CHASSIS GROUND) OSCILLOSCOPE SHOULD NOT BE NOT GROUNDED TO CHASSIS, REVERSING LEADS REVERSES WAVEFORM
INDICATES CHROMATIC SWITCH WIRING POSITION
INDICATES CHASSIS GROUND.
INDICATE MODULE BOARD
INDICATES PIN NUMBER ON MODULE BOARD

ZENITH
Color-TV
Chassis 25DC56





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 10μF 25V ELECTROLYTIC DURING COLOR ALIGNMENT
E	I.F. A.G.C.
G	INPUT TEST POINT FOR 6TH 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
U, UU	BRIGHTNESS LIMITER SET-UP POINTS

NOTES

TURN POWER OFF BEFORE REPLACING SEMICONDUCTORS.

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 1.0MFD CAPACITOR

ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED

ALL VOLTAGES ARE DC UNLESS OTHERWISE SPECIFIED

ALL DC 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

INDICATES WAVEFORM CHECK POINTS. (SEE CHART WAVEFORM MEASURED FROM POINT INDICATED TO CHASSIS GROUND

INDICATES WAVEFORM (SEE CHART) WAVEFORM MEASURED ACROSS POINTS INDICATED (NOT TO CHASSIS GROUND) OSCILLOSCOPE SHOULD NOT BE GROUNDED TO CHASSIS. REVERSING LEADS REVERSES WAVEFORM

INDICATES CHROMATIC SWITCH WIRING POSITION

INDICATES CHASSIS GROUND.

INDICATE MODULE BOARD

A1 INDICATES PIN NUMBER ON MODULE BOARD

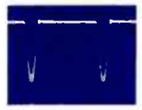
NOTE SPG204 THRU SPG213 AND R262 THRU R271 IN CRT SOCKET.

IMPORTANT SAFETY NOTICE

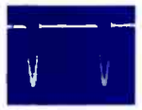
WHEN SERVICING THIS CHASSIS, UNDER NO CIRCUMSTANCES SHOULD THE ORIGINAL DESIGN BE MODIFIED OR ALTERNED WITHOUT PERMITION FROM THE ZENITH RADIO CORPORATION. ALL COMPONENTS SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT. IN SOME INSTANCES REDUNDANT CIRCUITRY IS INCORPORATED FOR ADDITIONAL CIRCUIT PROTECTION AND X-RADIATION SAFETY AND MUST BE RETAINED ACCORDINGLY.

ZENITH

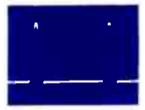
Color-TV Chassis
17EC45/19EC45



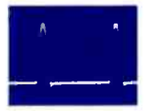
(17) 62V P-P 15.75 KHz



(18) 27V P-P 15.75 KHz



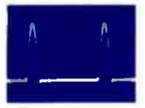
(19) 240V P-P 15.75 KHz



(20) 8.8V P-P 15.75 KHz



(21) 21V P-P 60 Hz



(22) 1100V P-P 15.75 KHz

(23) NOT USED



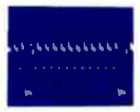
(24) **UNCALIBRATED. PROBE ONLY HELD NEAR TERTIARY.



(25) 72V P-P 15.75 KHz



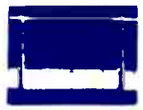
(1) 1.7V P-P 60 Hz 3.5V O-P 60 Hz



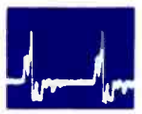
(2) 1.7V P-P 15.75 KHz 3.5V O-P 15.75 KHz



(3) .9V P-P 60 Hz



(4) 12V P-P 60 Hz



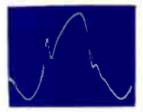
(5) 1.75V P-P 15.75 KHz



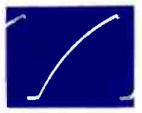
(6) 24V P-P 15.75 KHz



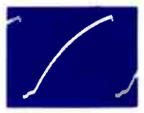
(7) 3V P-P 15.75 KHz



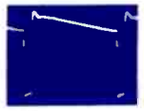
(8) 29V P-P 15.75 KHz



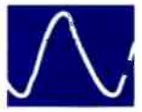
(9) 18V P-P 15.75 KHz



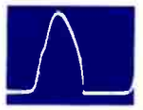
(10) 18V P-P 15.75 KHz



(11) 11V P-P 15.75 KHz



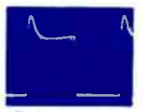
(12) 72V P-P 15.75 KHz



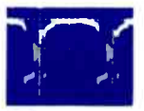
(13) 30V P-P 15.75 KHz



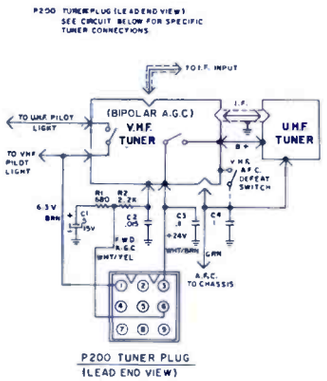
(14) 3.5V P-P 15.75 KHz

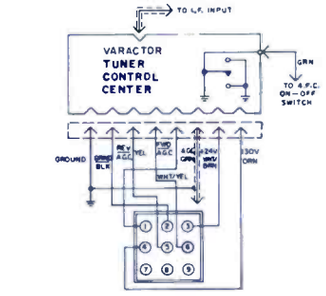


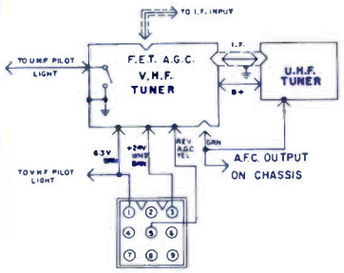
(15) 170V P-P 15.75 KHz

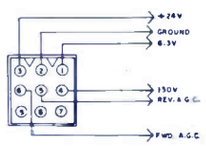


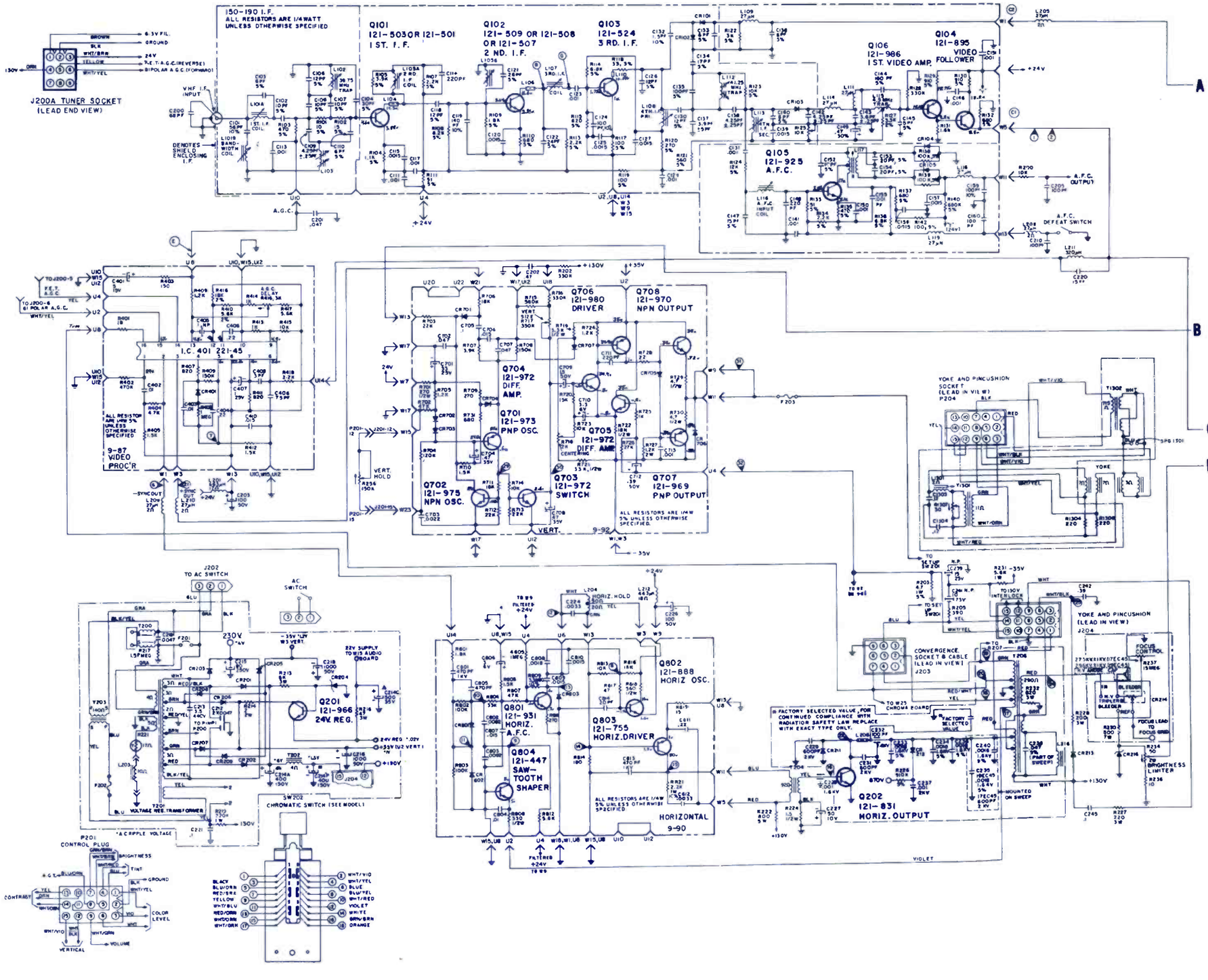
(16) 8.5V P-P 15.75 KHz









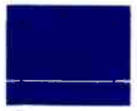


DRAWING NO 123-4685

NOT USED (26)

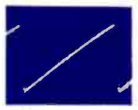
NOT USED (27)


(28) 50V P-P 15.75 KHz


(29) 20V P-P 60 Hz


(30) 5V P-P 60 Hz


(31) 30V P-P 60 Hz


(32) 4.8V P-P 60 Hz

NOT USED (33)


(34) 3.0V P-P 60 Hz


(35) 4.2V P-P 15.75 KHz

NOT USED (36)

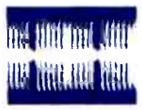
NOT USED (37)

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

**WAVE FORM MAY BE TAKEN WITH LEAD (PROBE) CLIPPED ONLY TO INSULATION.

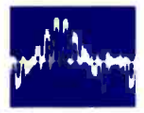
NOT USED (38)

NOT USED (39)

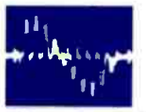

(40) .4V P-P 15.75 KHz

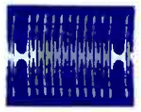

(41) 1.5V P-P 15.75 KHz

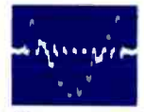

(42) 1.5V P-P 15.75 KHz

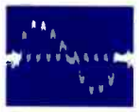

* (43) 4V P-P 15.75 KHz

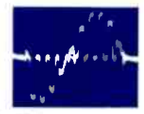

* (44) 2V P-P 15.75 KHz


* (45) 4V P-P 15.75 KHz


* (46) 1.2V P-P 15.75 KHz


* (47) 100V P-P 15.75 KHz

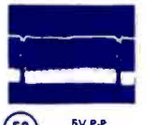

* (48) 90V P-P 15.75 KHz


* (49) 105V P-P 15.75 KHz


(50) 3V P-P 60 Hz


(51) 18.0V P-P 60 Hz

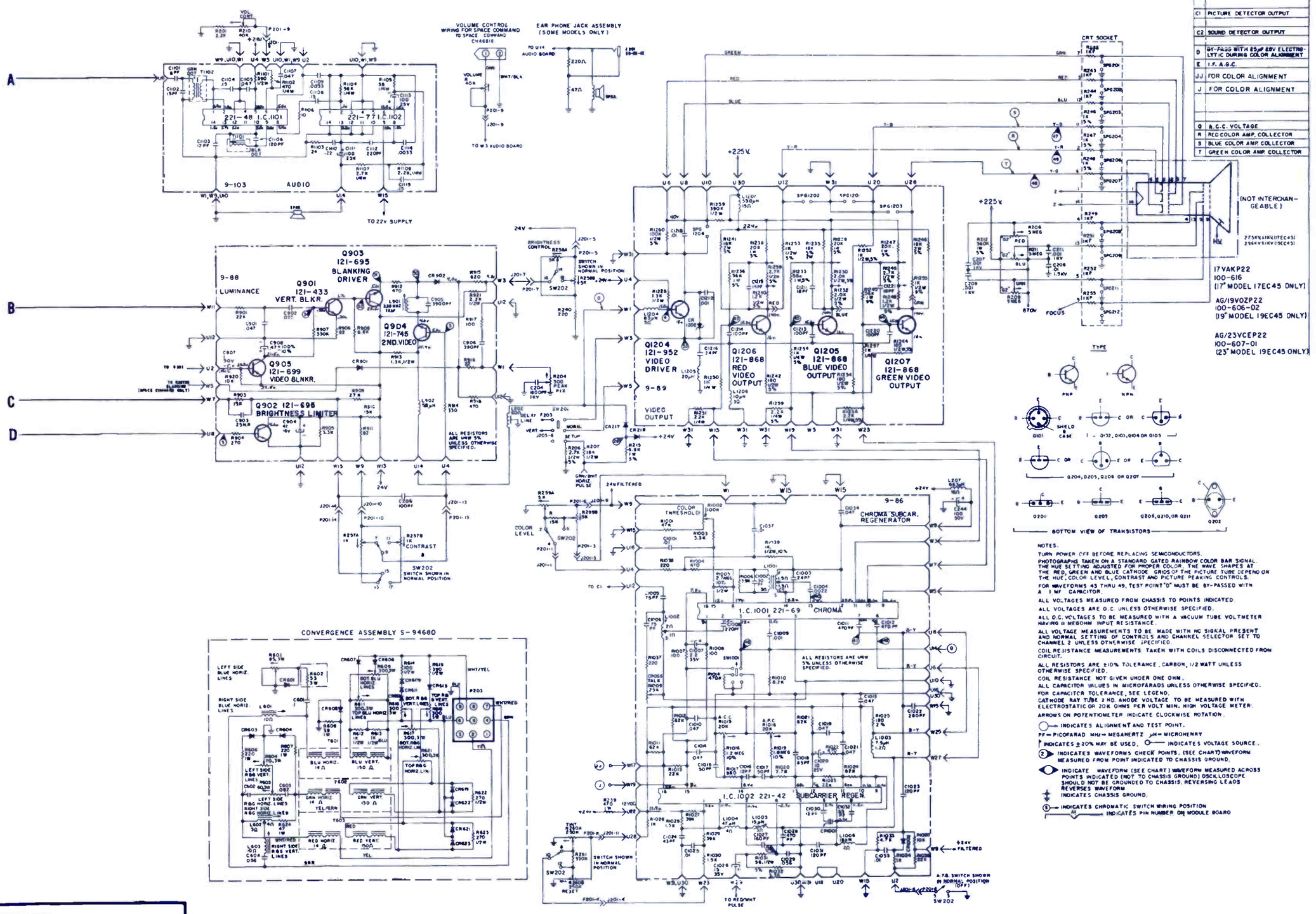

(52) 23V P-P 60 Hz


(53) 5V P-P 60 Hz

NOT USED (54)

NOT USED (55)

NOT USED (56)



NOTES.

TURN POWER OFF BEFORE REPLACING SEMICONDUCTORS.

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 CATHODE GRIDS OF THE PICTURE TUBE DEPEND ON THE HUE, COLOR LEVEL, CONTRAST AND PICTURE PEAKING CONTROLS.

FOR WAVEFORMS 43 THRU 49, TEST POINT "D" MUST BE BY-PASSED WITH A 1 MF 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.

COIL RESISTANCE MEASUREMENTS TAKEN 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 PER VOLT MIN. HIGH VOLTAGE METER.

ARROWS ON POTENTIOMETER INDICATE CLOCKWISE ROTATION.

◯— INDICATES ALIGNMENT AND TEST POINT.

PF = PICOFARAD MH = MEGAHERTZ µH = MICROHENRY

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

(2) INDICATES WAVEFORMS CHECK POINTS. (SEE CHART) WAVEFORM MEASURED FROM POINT INDICATED TO CHASSIS GROUND.

INDICATE WAVEFORM (SEE CHART) WAVEFORM MEASURED ACROSS POINTS INDICATED (NOT TO CHASSIS GROUND) OSCILLOSCOPE SHOULD NOT BE GROUNDED TO CHASSIS. REVERSING LEADS REVERSES WAVEFORM

INDICATES CHASSIS GROUND.

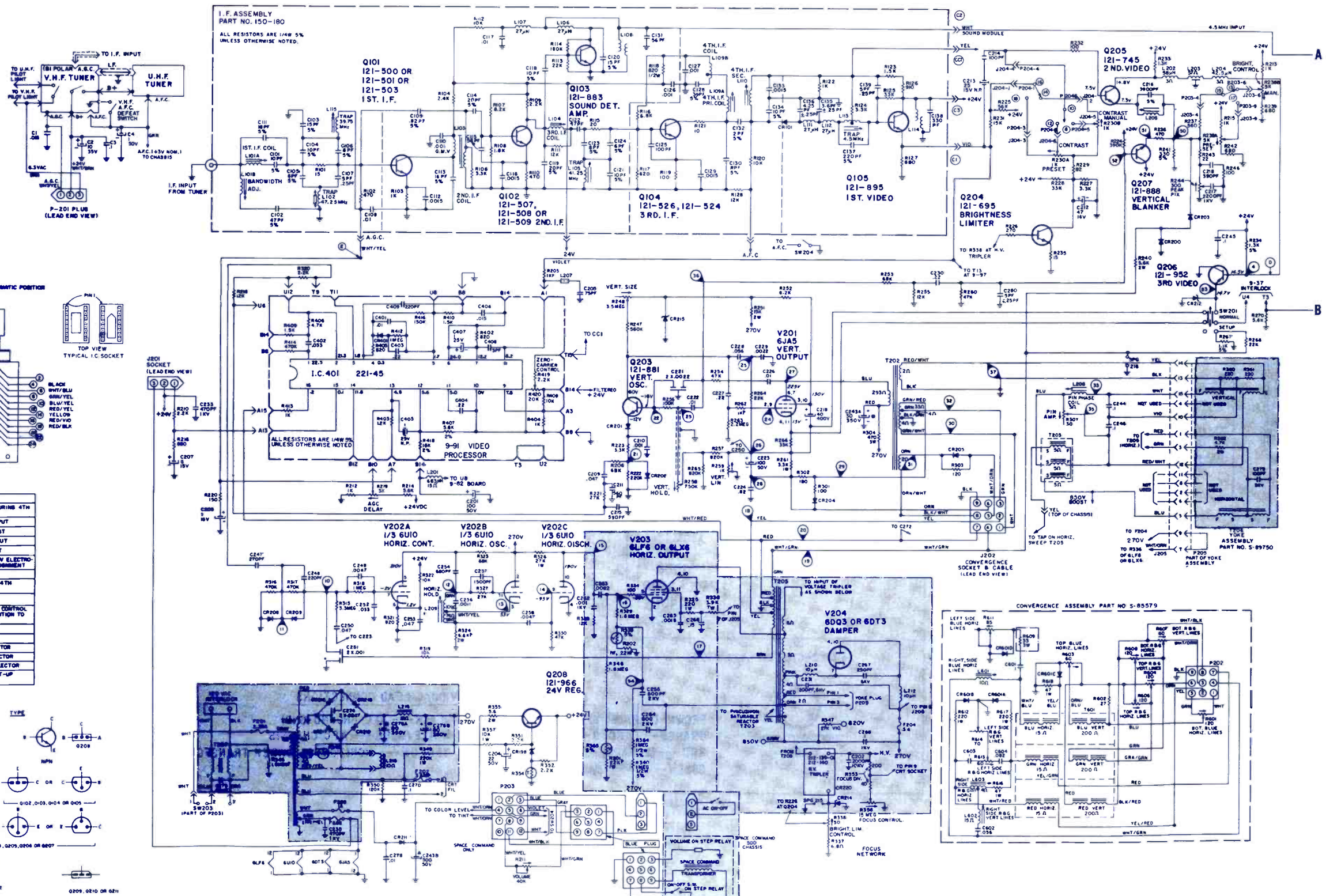
(S) INDICATES CHROMATIC SWITCH WIRING POSITION

A1 INDICATES PIN NUMBER OR MODULE BOARD

ZENITH

Color-TV Chassis
19EC13

SYMBOL	DESCRIPTION	ZENITH PART NO.
C276A	80 µf electro cap, 350v	22-7230
C276B	80 µf electro cap, 350v	22-7230
C276C	15 µf electro cap, 350v	22-7230
R219	3K AGC delay control ½w	63-9116
R230A	contrast control (preset)	63-9269
R230B	contrast control (manual)	63-9269
R238A	5K brite control (preset)	63-9282
R238B	5K brite control (manual)	63-9282
R244	300Ω peak pix control	63-9119
R248	3.5M vert size control	63-9115
R307	30Ω pincushion amp control	63-8473
R309	100K killer threshold control	63-8501
R310A	5K chroma level control	preset
R313	25K CTA control	63-9117
R333	voltage dependent resistor 5%	63-8688
R338	50Ω brite limiter control	63-8989
R344	therm	63-8687
R353	focus divider	63-9897
R356	15M focus control	63-9961
R365	voltage dependent resistor 5%	63-8688
R420	20K detect level control	63-8576
R1013	20K AGC control	63-8676
R1016	20K APC control	63-8676
L203	delay line	S-91401
L205	3.58MHz trap coil	20-1838
L209	horiz osc coil	S-86164
L216	filter choke	95-2917
L901	chroma take-off coil 9-97 module	95-3080
L902	2nd chroma output coil 9-97 module	S-86109
T202	vert output xformer	95-3083
T204	power xformer	95-3116
T205	horiz xformer	S-90754
T206	deflect yoke	S-89750
T207	AC line choke	95-2964
T1101	detect xformer	95-2789
F202	3a fuse pigtail type	136-47
F203	.1a bel-fuse	136-71
F204	.5a bel-fuse/with leads	S-90985



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 ELECTRO-LYTIC DURING COLOR ALIGNMENT
E	I.F. A.G.C.
G	INPUT TEST POINT FOR 4TH ALIGNMENT
⏚	A.C.C.
K KK	TURN COLOR THRESHOLD CONTROL TO MAX. CLOCKWISE POSITION TO OPEN COLOR CHANNEL
SND	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:

TURN POWER OFF BEFORE REPLACING SEMICONDUCTORS.

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 "D" MUST BE BY-PASSED WITH A .01 µF 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.

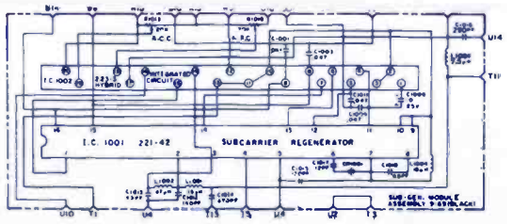
COIL RESISTANCE NOT GIVEN UNDER ONE OHM.

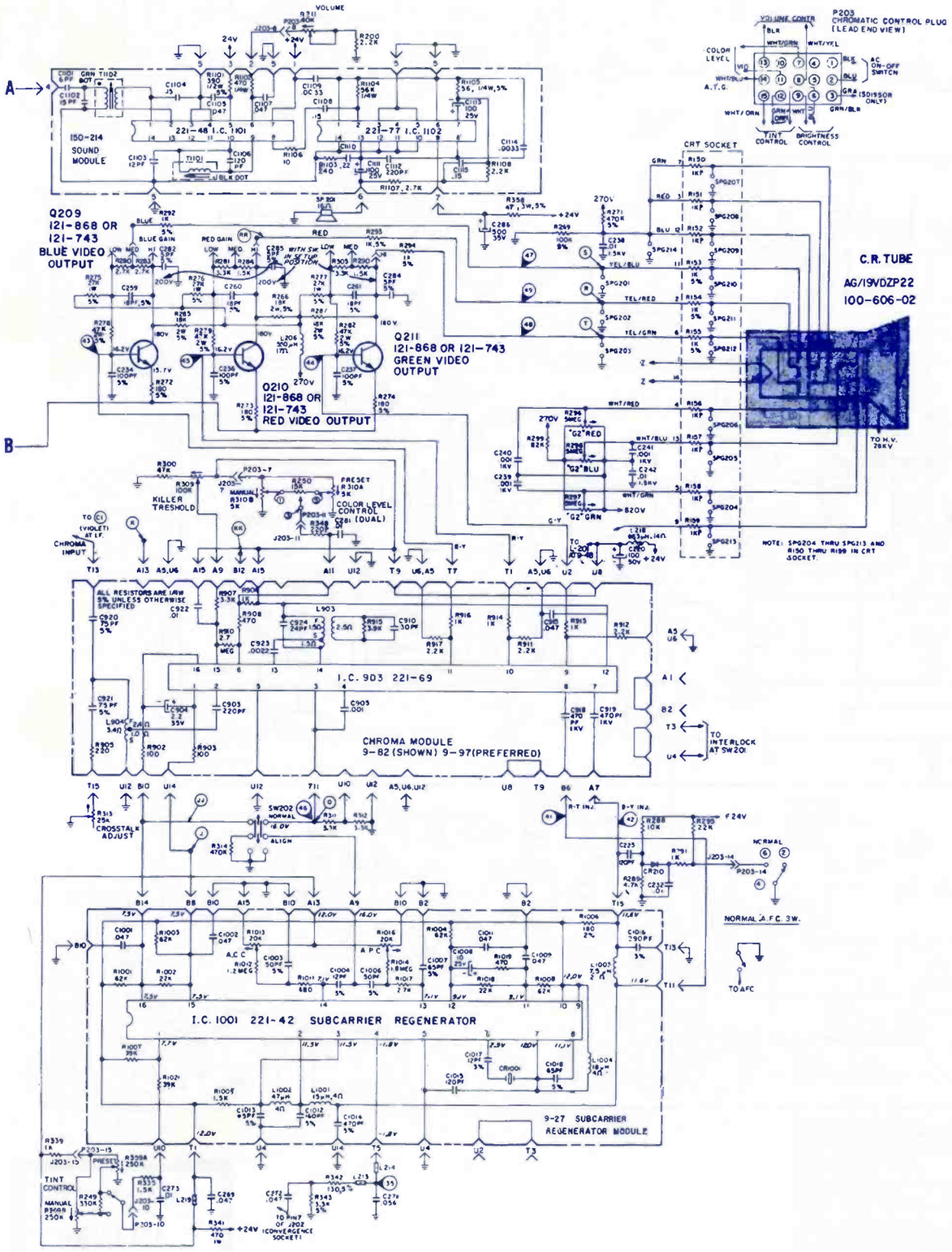
ALL CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED FOR CAPACITOR TOLERANCE, SEE LEGEND.

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) WAVEFORM MEASURED FROM POINT INDICATED TO CHASSIS GROUND.
INDICATES CHASSIS GROUND. (6) INDICATES CHROMATIC SW. WIRING POSITION.
INDICATES MODULE BOARD.
A1 INDICATES PIN NUMBER ON MODULE BOARD.
INDICATES WAVEFORM (SEE CHART) WAVEFORMS MEASURED ACROSS POINTS INDICATED. (NOT CHASSIS GROUND) OSCILLOSCOPE SHOULD NOT BE GROUND TO CHASSIS. REVERSING LEADS REVERSES WAVEFORM.





ZENITH
Color-TV Chassis
19EC13

1 2.8V P-P 60 Hz 3.5V O-P 60 Hz	2 2.8V P-P 15.75 KHz 3.5V O-P 15.75 KHz	3 1.4V P-P 60 Hz	4 10V P-P 60 Hz	5 NOT USED	6 20V P-P 60 Hz	7 3V P-P 15.75 KHz	
8 1.0V P-P 60 Hz (Ripple)	9 .1V P-P 60 Hz (Ripple)	10 15V P-P 15.75 KHz	11 12V P-P 15.75 KHz	12 425V P-P 15.75 KHz	13 260V P-P 15.75 KHz	14 135V P-P 15.75 KHz	
15 210V P-P 15.75 KHz	16 200V P-P 15.75 KHz	17 240V P-P 15.75 KHz	18 20V P-P 15.75 KHz	19 200V P-P 15.75 KHz	20 10V P-P 15.75 KHz	21 2V P-P 60 Hz	
22 70V P-P 60 Hz	23 300V P-P 60 Hz	24 65V P-P 60 Hz	25 50V P-P 60 Hz	26 34V P-P 60 Hz	27 840V P-P 60 Hz	28 35V P-P 60 Hz	
29 72V P-P 60 Hz	30 9.2V P-P 60 Hz	31 45.0V P-P 60 Hz	32 7.5V P-P 60 Hz	33 80V P-P 60 Hz	34 1V P-P 15.75 KHz	35 3.5V P-P 15.75 KHz	
36 280V P-P 60 Hz	37 90V P-P 60 Hz	38 NOT USED	39 NOT USED	40 NOT USED	41 1.5V P-P 15.75 KHz	42 1.5V P-P 15.75 KHz	
* 43 5.0V P-P 15.75 KHz	* 44 1.0V P-P 15.75 KHz	* 45 4.0V P-P 15.75 KHz	* 46 1.0V P-P 15.75 KHz	* 47 150V P-P 15.75 KHz	* 48 40V P-P 15.75 KHz	* 49 135V P-P 15.75 KHz	
50 3V P-P 60 Hz	51 18V P-P 60 Hz	52 23V P-P 60 Hz	53 6V P-P 60 Hz	54 1250V P-P 15.75 KHz	55 NOT USED	56 NOT USED	

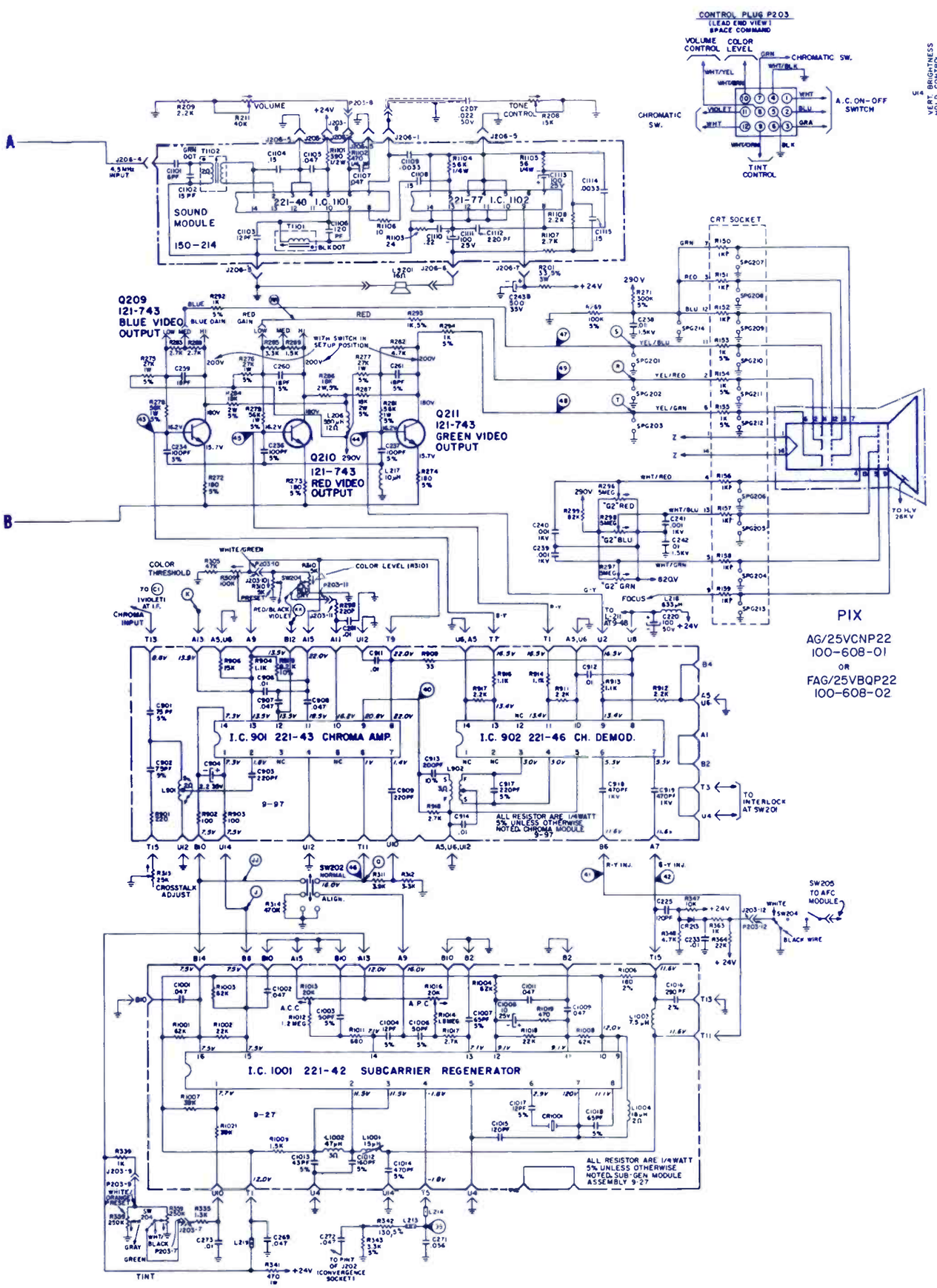
* FOR WAVEFORMS 43 THROUGH 49, BYPASS TEST POINT "D" WITH 1.0 MF CAPACITOR.

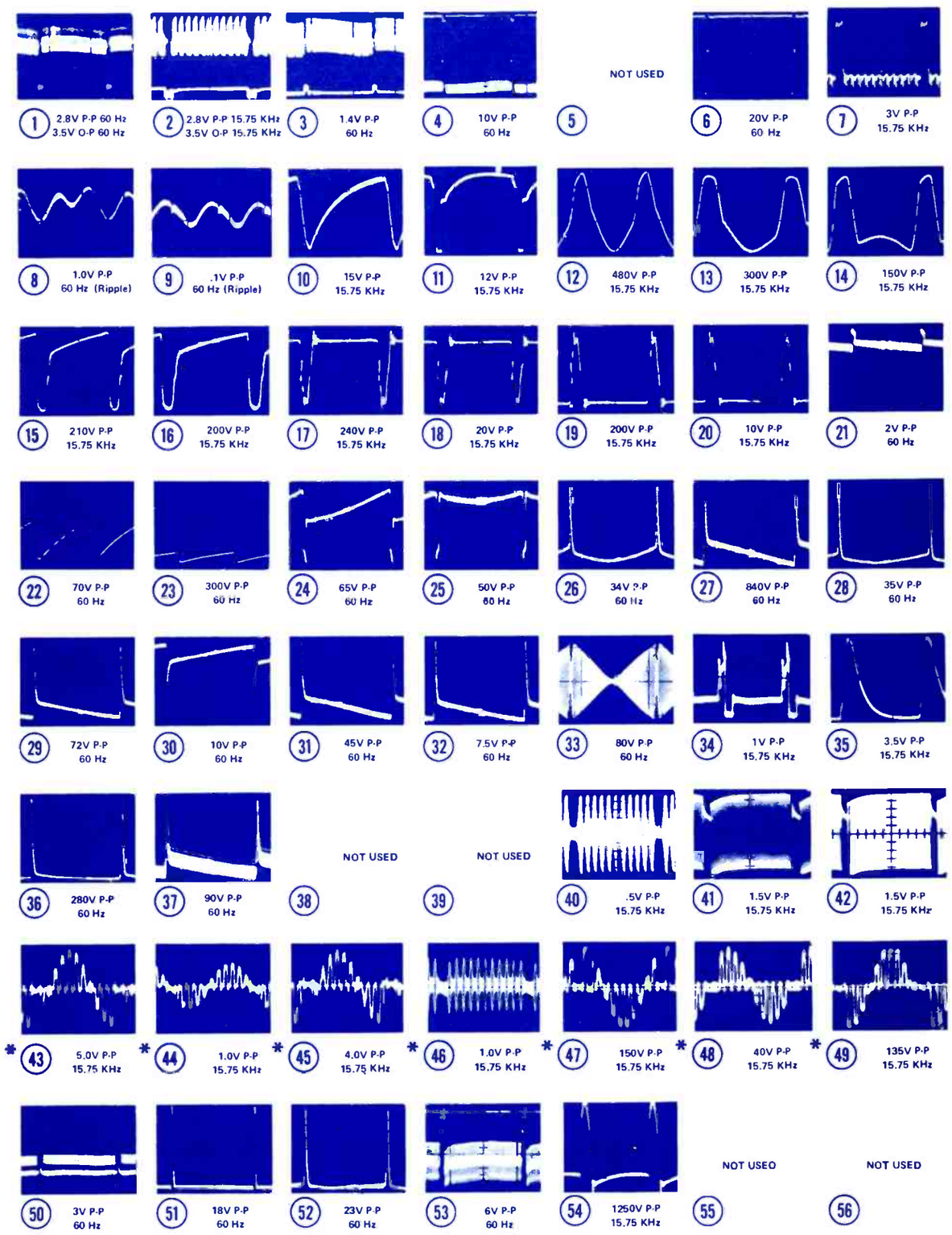
ZENITH

Color-TV Chassis
23EC15

SYMBOL	DESCRIPTION	ZENITH PART NO.
C243A	30µf electrolytic cap 400v	
C243B	500µf electro cap 35v	22-7066
C243C	500µf electrolytic cap 50v	
C276A	150µf electrolytic cap 400v	22-7237
C276B	100µf electrolytic cap 400v	22-7237
R219	3K AGC delay control ½w	63-9116
R230	contrast control	63-9193
R238	5K brite control	63-9927
R244	300Ω peak picture control	63-9119
R248	3.5M vert size control	63-9115
R258	750K vert hold	63-9194
R259	1K vert lin control	63-9066
R309	100K killer threshold control	63-8501
R333	voltage dependent resist 5%	63-8688
R338	50Ω brite limiter control	63-8989
R344	thermistor	63-8687
R353	focus divider	63-9897
R354	thermistor	63-10180
R365	voltage dependent resist 5%	63-8688
R1013	20K ACC control	63-8576
L105	41.25MHz trap	20-3287
L113	4.5MHz trap	20-3289
L209	horiz osc coil	S-86164
L216	filter choke	
T202	vert output xformer	95-3083
T203	saturable reactor	95-3004
T204	power xformer	95-3116
T205	horiz sweep xformer	S-90754
T206	deflect yoke	S-89750
T207	AC line choke	95-2964
T1102	4.5MHz input coil	95-2620
F201	2.25a bel fuse	136-92
F202	3a pigtail fuse	136-47
F204	5a bel fuse/with leads	S-90985
F205	heater fuse link	91-2061
	VHF tuner	175-2201-40
	UHF tuner	175-2201-50

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
SND	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





ZENITH
Color-TV Chassis
23EC15

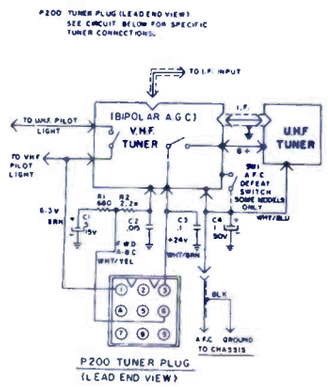
* FOR WAVEFORMS 43 THROUGH 49, BYPASS TEST POINT "D" WITH 1.0 MF CAPACITOR.

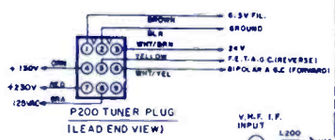
ZENITH

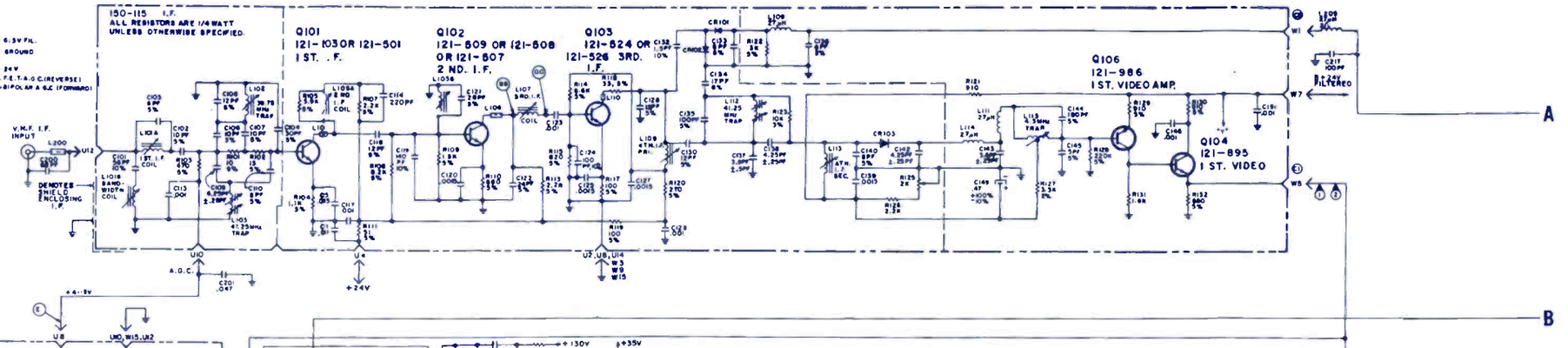
Color TV Chassis
17FC35

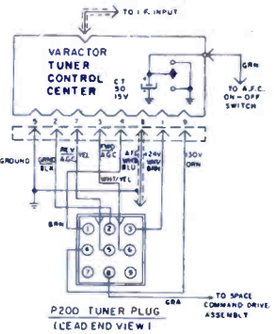


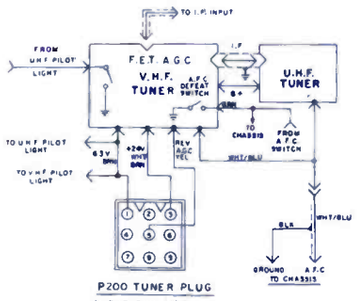


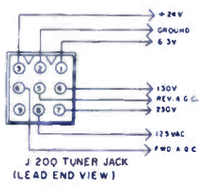


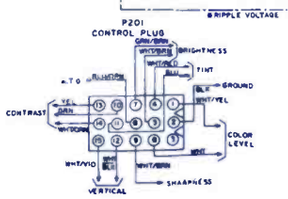


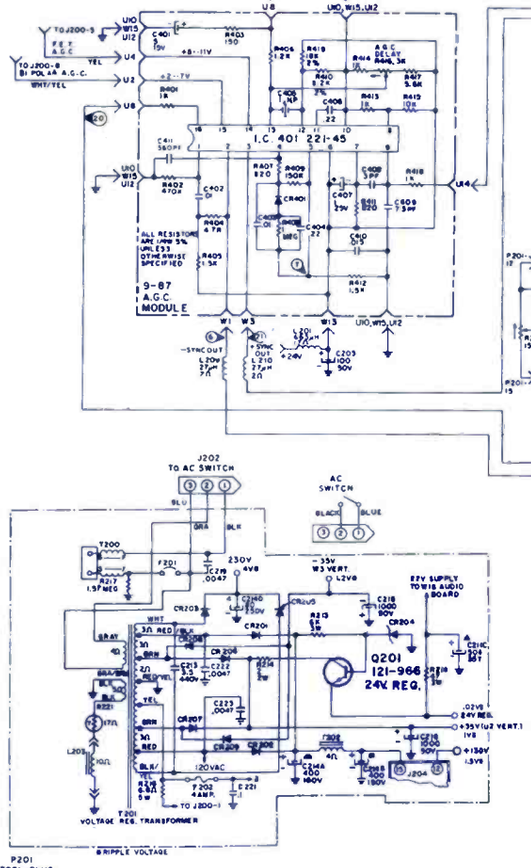


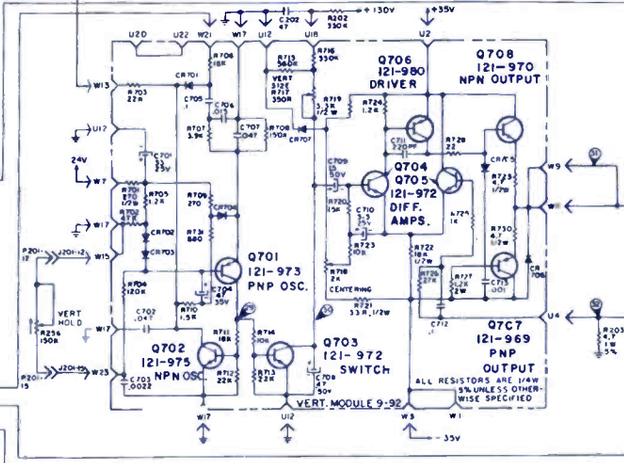


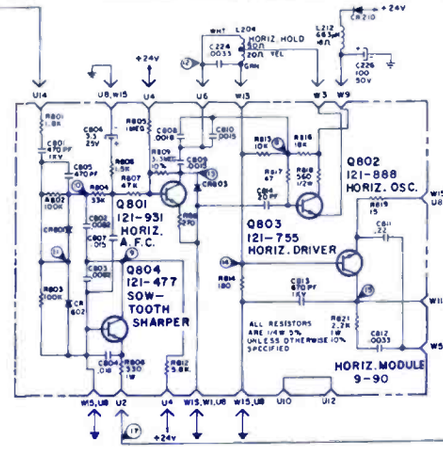


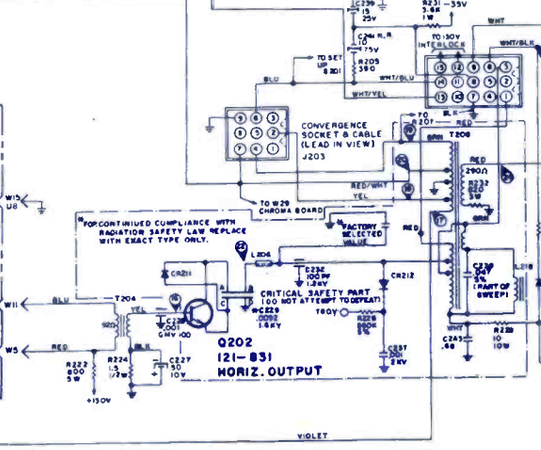


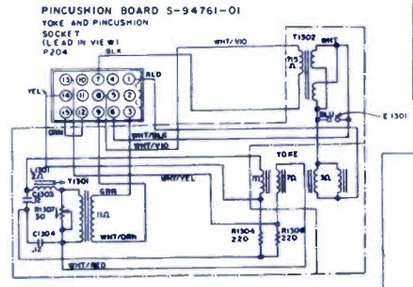




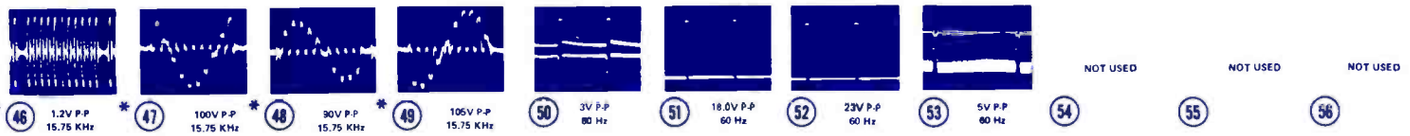




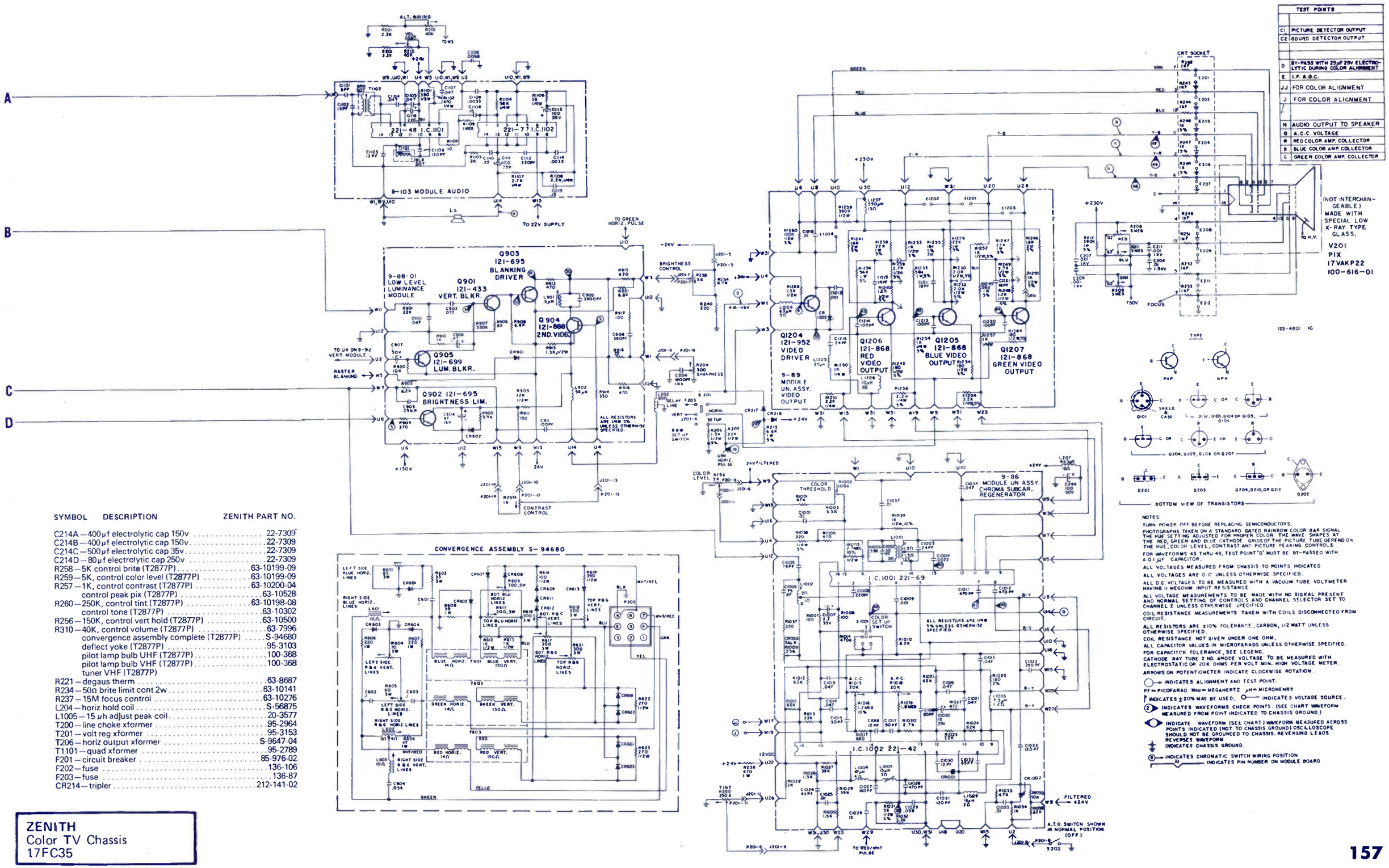








* FOR WAVEFORMS 43 THROUGH 49, BYPASS TEST POINT "D" WITH 1.0 MF CAPACITOR.



SYMBOL	DESCRIPTION	ZENITH PART NO.
C214A	—400µf electrolytic cap 150v	22-7309
C214B	—400µf electrolytic cap 150v	22-7309
C214C	—500µf electrolytic cap 35v	22-7309
C214D	—80µf electrolytic cap 250v	22-7309
R258	—5K control brite (T2877P)	63-10199-09
R259	—5K, control color level (T2877P)	63-10199-09
R257	—1K, control contrast (T2877P)	63-10200-04
	control peak pix (T2877P)	63-10528
R260	—250K, control tint (T2877P)	63-10198-08
	control tone (T2877P)	63-10302
R256	—150K, control vert hold (T2877P)	63-10500
R310	—40K, control volume (T2877P)	63-7996
	convergence assembly complete (T2877P)	S-94680
	deflect yoke (T2877P)	95-3103
	pilot lamp bulb UHF (T2877P)	100-368
	pilot lamp bulb VHF (T2877P)	100-368
	tuner VHF (T2877P)	
R221	—degaus therm	63-8687
R234	—50Ω pitch limit cont 2w	63-10141
R237	—15M focus control	63-10276
L204	—horiz hold coil	S-56875
L1005	—15 µh adjust peak coil	20-3577
T200	—line choke xformer	95-2964
T201	—volt reg xformer	95-3153
T206	—horiz output xformer	S-9647 04
T1101	—quad xformer	95-2789
F201	—circuit breaker	85-976-02
F202	—fuse	136-106
F203	—fuse	136-87
CR214	—tripler	212-141-02

ZENITH
Color TV Chassis
17FC35