

# TEKFAX 114

TV SCHEMATICS COVER 16 MANUFACTURERS • HUNDREDS OF CHASSIS & MODEL NUMBERS  
PUBLISHED BY ELECTRONIC TECHNICIAN/DEALER MAGAZINE



HARCOURT BRACE JOVANOVIICH PUBLICATIONS • 1 EAST FIRST STREET • DULUTH, MINNESOTA 55802

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## ADMIRAL

### TV Chassis:

T9K6	2
T5R3	3
T6R2-1A, 2A	4
TL6	5
TK8	6
T5R3-1A/2A	7
T21K8	8
T35H4-2B	9

### Color TV Chassis:

1M30	10, 11
3M10/4M10/4M10R	12, 13
T43K10, T44K10	14, 15
T50K10-4B	16, 17
4M10	18, 19
T47K10-1A/-4A	20, 21
T52K10	22, 23
2M10CA	24, 25
M10C	26, 27
2M10CA	28, 29
1M30B	30, 31
4M10C/H	32, 33

## AIRLINE

### TV Model:

GAI-11245A, B	
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GAI-11265A, B	34
GAI-11115A, B	
GAI-11155A, B	35
GAI-11235A/B	36
GAI-11105A/B	37
GAI-13145A/B	38
GAI-13135A/B	39
GAI-11656A/B	40
GEN-11765A	41

### Color TV Model:

GEN-12985A	42, 43
GAI-12925A	44, 45
GAI-12915A	46, 47
GAI-12103B	48, 49
GEN 12985B	50, 51
GAI-12635A	52, 53
GAI-12335A	54, 55
GAI-17825C/45B	56, 57
GAI-12936A/46A	58, 59

## GENERAL ELECTRIC

### TV Chassis:

XA	60
12XB/15XB	61

### Color TV Chassis:

YA	62, 63
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MB-75	64, 65
25MC	66, 67
25MB-2	68, 69
19YC	70, 71
25MC-2	72, 73

## K-MART

### TV Chassis:

T1K8-1B/2B	74
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## MAGNAVOX

### B-W TV Chassis:

998	75
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### Color TV Chassis:

T995	76, 77
T971	78, 79
T991	80, 81
T985/T986	82, 83

## MGA

### Color TV Model:

CS-195	84, 85
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## PANASONIC

### Color TV Chassis:

CT-324	86, 87
NMX-P3A	88, 89, 90, 91

## QUASAR

### Color TV Chassis:

ATS, CTS, TS-942	92, 93
TS-951	94, 95

## RCA

### Color TV Chassis:

CTC74 Series	96, 97, 98, 99
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## SONY

### Color TV Model:

KV-1730R	100, 101
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## SYLVANIA

### TV Chassis:

A16-2, 3	102
A22-1	103
A19-1-2	104
5BL23A	105
A12-7-8-9	106
A19-3	107

### Color TV Chassis:

E09-1, E10-1	108, 109
E11-1	110, 111
D16-3 THRU -9	112, 113
E08-1	114, 115
E12-1, -2	116, 117

E20-2	118, 119
E40-1	120, 121
E21-1	122, 123

## TRAV-LER

### TV Chassis:

TL6/TIL6	124, 125
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### Color TV Chassis:

T41K10-4A/B	126, 127
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## ZENITH

### TV Chassis:

19FB14	128
9FB1X	129
12FB12X	130
19FB13	131
12FB22X	132

### B-W TV Chassis:

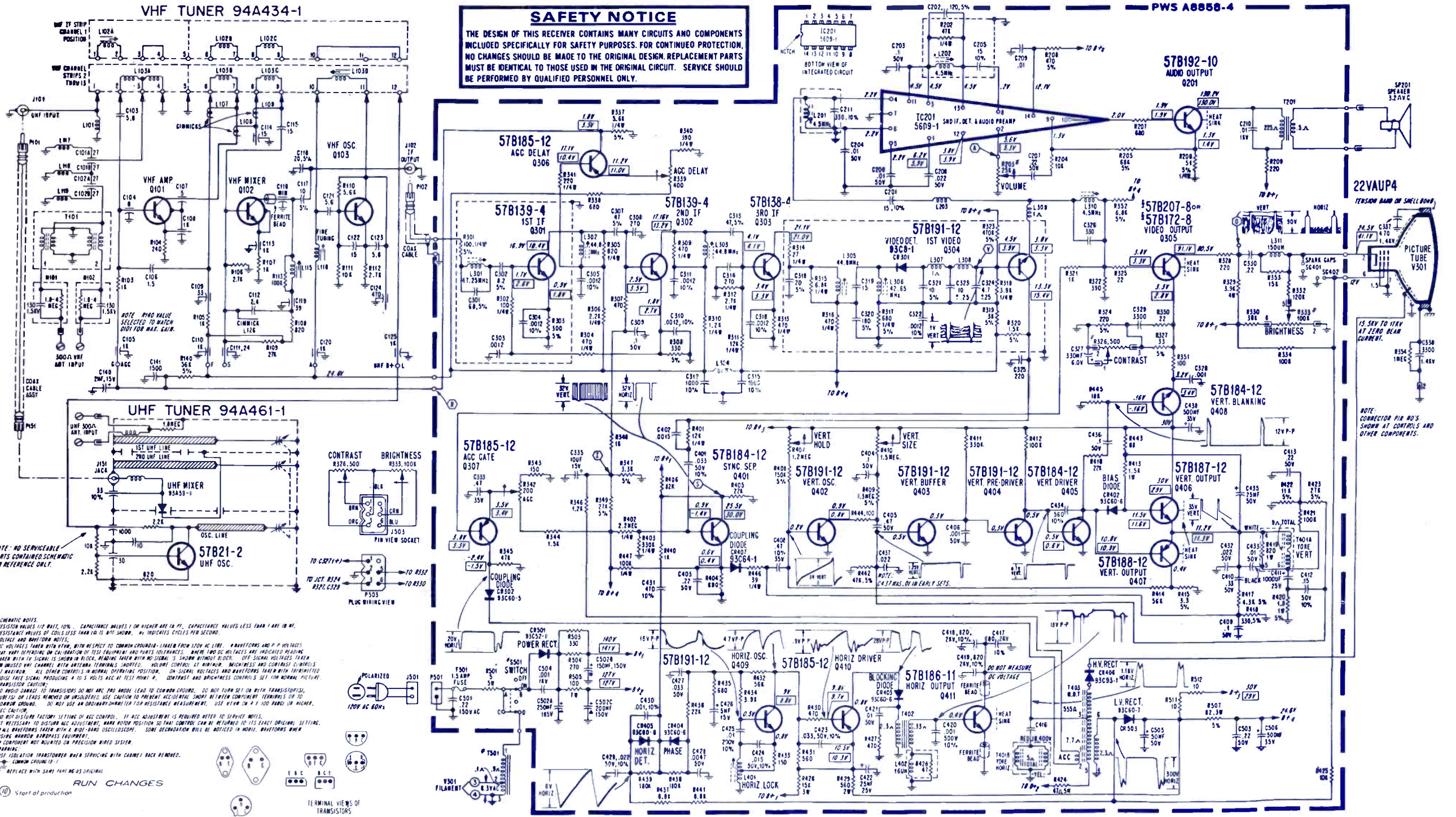
22FB12	133
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### Color TV Chassis:

19EC22	134, 135
19FC45Z	136, 137
25FC45	138, 139
13GC10	140, 141
17GC45	142, 143

## MODEL CHART

MODEL	FINISH	CRT	VHF	UHF	CHASSIS
16P640M	Black	16VARP4	94A434-1	94A461-1	T7K6-2B
16P657CM	Walnut	16VARP4	94A434-1	94A461-1	T7K6-2B
19P871M	Brown	19VBXP4	94A434-1	94A461-1	T8K6-2B
19P897CM	Walnut	19VBXP4	94A434-1	94A461-1	T8K6-2B
19P889CM	White	19VBXP4	94A434-1	94A461-1	T8K6-2B
22T331CM	Walnut	22VAUP4	94A434-1	94A461-1	T9K6-2A
22C341M	Walnut	22VAUP4	94A434-1	94A461-1	T9K6-2A
22C345M	Maple	22VAUP4	94A434-1	94A461-1	T9K6-2A
22C343M	Oak	22VAUP4	94A434-1	94A461-1	T9K6-2A

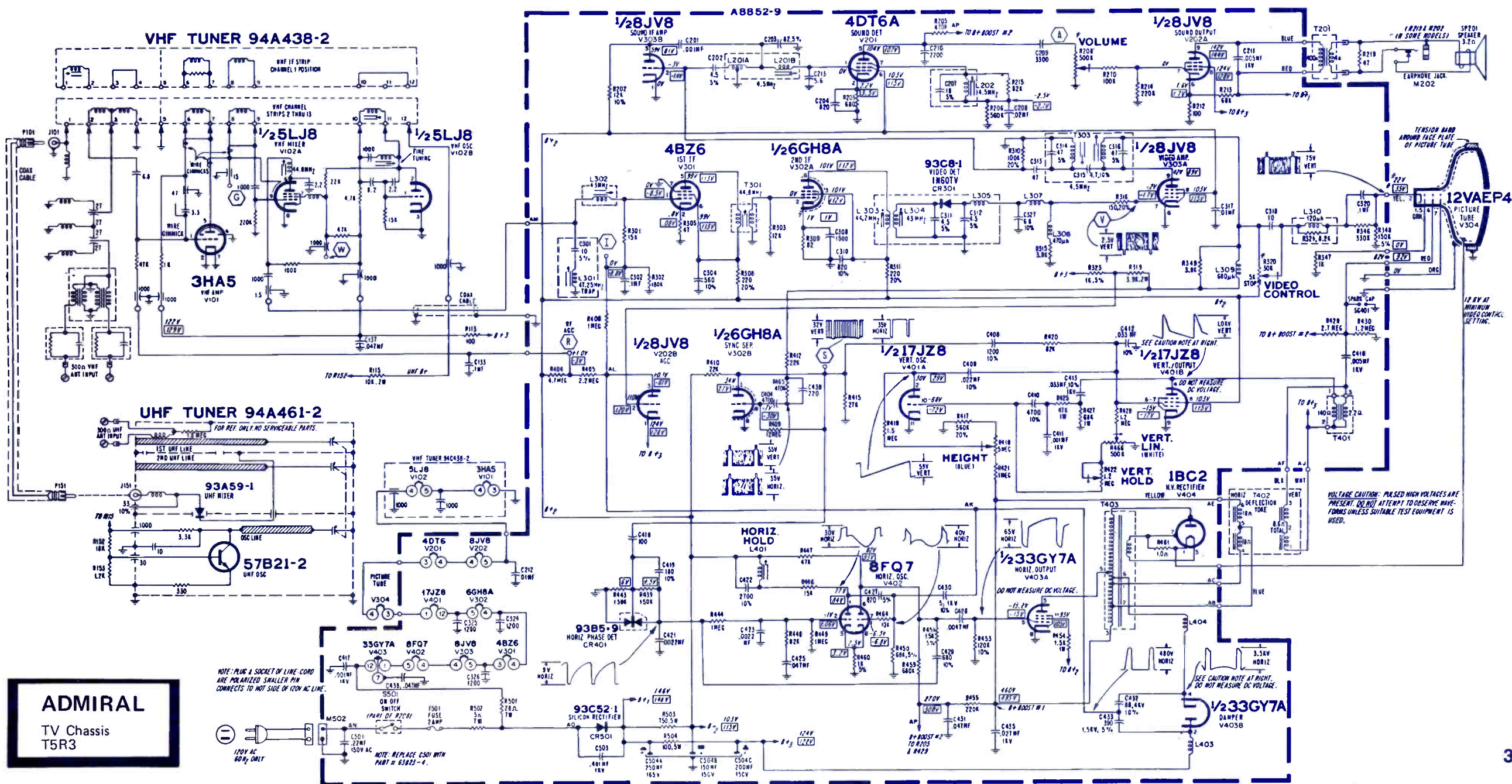


SYMBOL	DESCRIPTION	ADMIRAL PART NO.
R208	500K vol, on/off switch	76A1-186
R320	30K, video contrast	75A112-13
R418	height control	75A101-16
R422	1.2M vert hold control	75A100-8
R466	vert lin control	75A101-17
R502	5.5 ohm, fuse type	61A48-1
C504A	150mf, 156v	67A30-11
C504B	150mf, 150v	67A30-11
C504C	200mf, 150v	67A30-11

L202	quad coil	72A132-77
L401	horiz lock coil	94A17-19
T201	audio output xformer	79A124-5
T303	sound takeoff xformer	72A185-5
T401	vert output xformer	79A139-4
T402	deflect yoke assy	94A372-2
T403	horiz output xformer	79A138-30
CR301	video detect	93A8-1
CR401	horiz phase detect	93A5-10
CR501	silicon rectifier	93A52-1
	VHF tuner	94A438-2

**SCHEMATIC NOTES:**  
 1. PART NOT MOUNTED ON PRECISION WIRED SYSTEM.  
 2. VOLTAGE WILL VARY WITH SETTING OF CONTROLS.  
 3. RESISTOR VALUES 1/2 WATT 10%. CAPACITOR VALUES IN MICROFARADS 20% UNLESS OTHERWISE INDICATED. DC VOLTAGES MEASURED WITH VTVM AT 100V AC LINE. MAX VIDEO CONTRAST SETTING AND MIN. VOLUME. DC VOLTAGES IN BOX MEASURED WITH SIGNAL OF MEDIUM SIGNAL STRENGTH. VOLTAGES NOT IN BOX MEASURED WITH NO SIGNAL. CHASSIS GROUND.  
 4. WARNING: USE ISOLATION TRANSFORMER WHEN SERVICING WITH CABINET BACK REMOVED.

MODEL CHART					
MODEL	FINISH	CRT	VHF	UHF	CHASSIS
12P647	Walnut	12VAEP4	94A363-2	94A465-2	T5R3-1A
12P647M	Walnut	12VAEP4	94A438-2	94A461-2	T5R3-2A

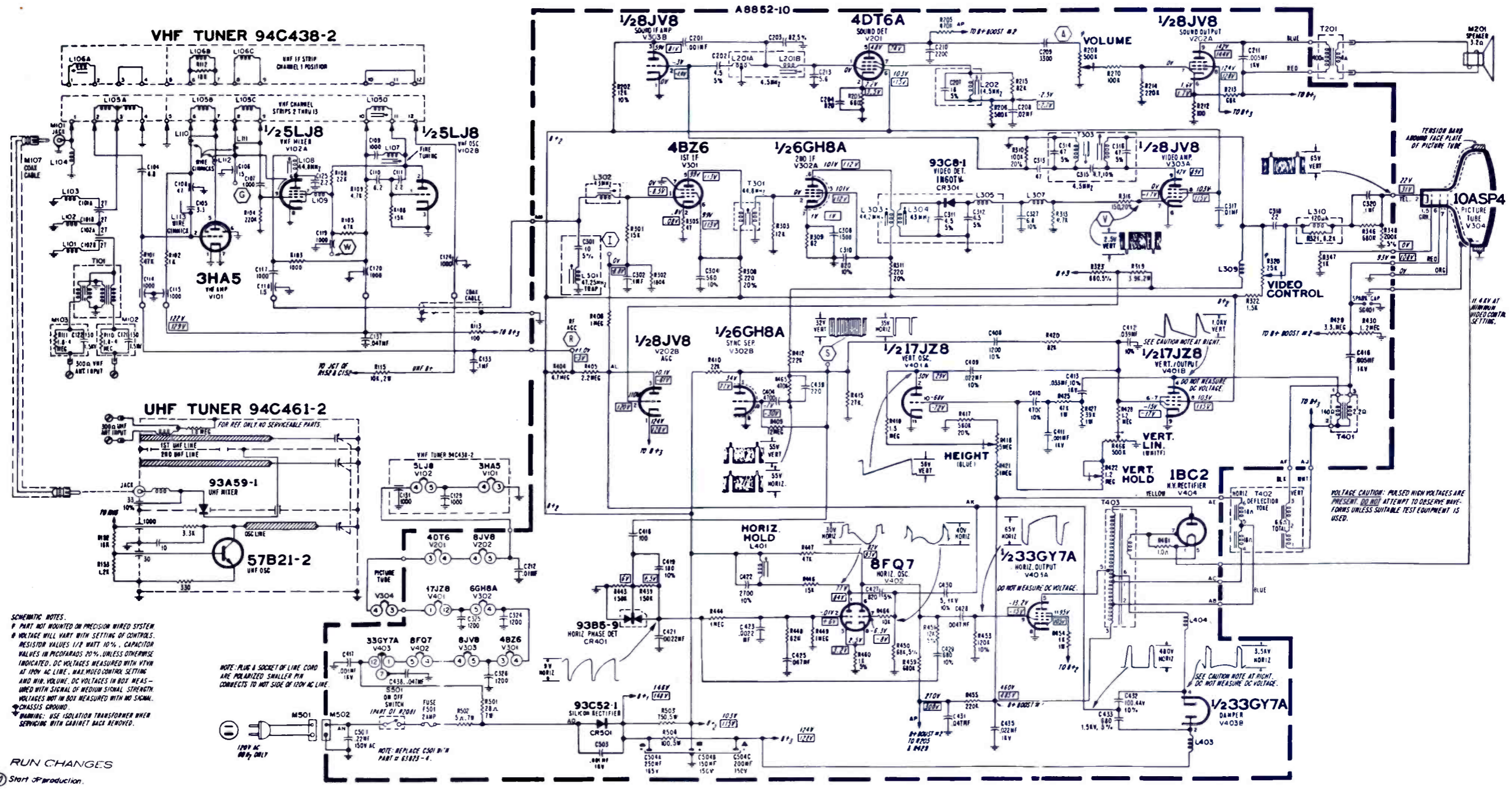


**ADMIRAL**  
 TV Chassis  
 T5R3

**ADMIRAL**  
TV Chassis  
T6R2-1A, 2A

SYMBOL	DESCRIPTION	ADMIRAL PART NO.
R208	500K, vol con	75A148-2
R320	25K, video con	72A296-7
R418	height con	75A101-16
R422	1.2 M, vert hold con	75A100-8
R466	vert line con	75A101-17
R502	5.5 ohm, fuse type	61A48-1
C504A	150mf, 165v	67A30-10
C504B	150mf, 150v	electro
C504C	200mf, 150v	72A132-77
L202	quad coil	72A296-7
L303,304	IF xformer	94A17-19
L401	horiz lock coil	79A124-5
T201	audio output xformer	72A185-5
T303	sound takeoff xformer	79A139-4
T401	vert output xformer	94A372-1
T402	deflect yoke assy	79A138-29
T403	horiz output xformer	84A7-8
F501	2a fuse, run 11	94A363-2

MODEL CHART					
MODEL	FINISH	CRT	VHF	UHF	CHASSIS
9P637	Brown	10ASP4	94A363-2	94A465-2	T6R2-1A
9P637M	Brown	10ASP4	94A438-2	94A461-2	T6R2-2A
SK9P667	Walnut	10ASP4	94A363-2	94A465-2	T6R2-1A
SK9P667M	Walnut	10ASP4	94A438-2	94A461-2	T6R2-2A

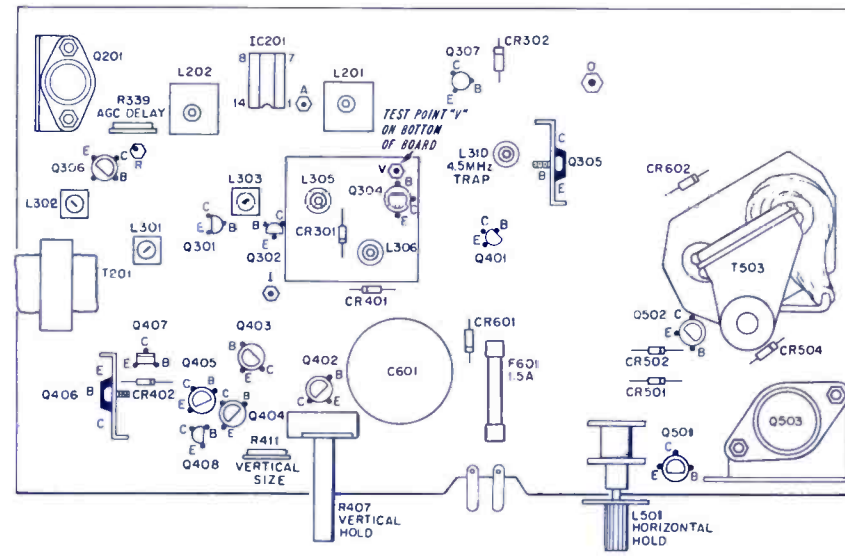


**SCHEMATIC NOTES:**  
 \* PART NOT MOUNTED IN PRECISION WIRED SYSTEM  
 # VOLTAGE WILL VARY WITH SETTING OF CONTROLS.  
 RESISTOR VALUES 1/2 WATT 10%. CAPACITOR VALUES IN MICROFARADS 20%, UNLESS OTHERWISE INDICATED. DC VOLTAGES MEASURED WITH VTVM AT 100% AC LINE, MAX. VIDEO CONTROL SETTING AND MIN. VOLUME. DC VOLTAGES IN RED 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.

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

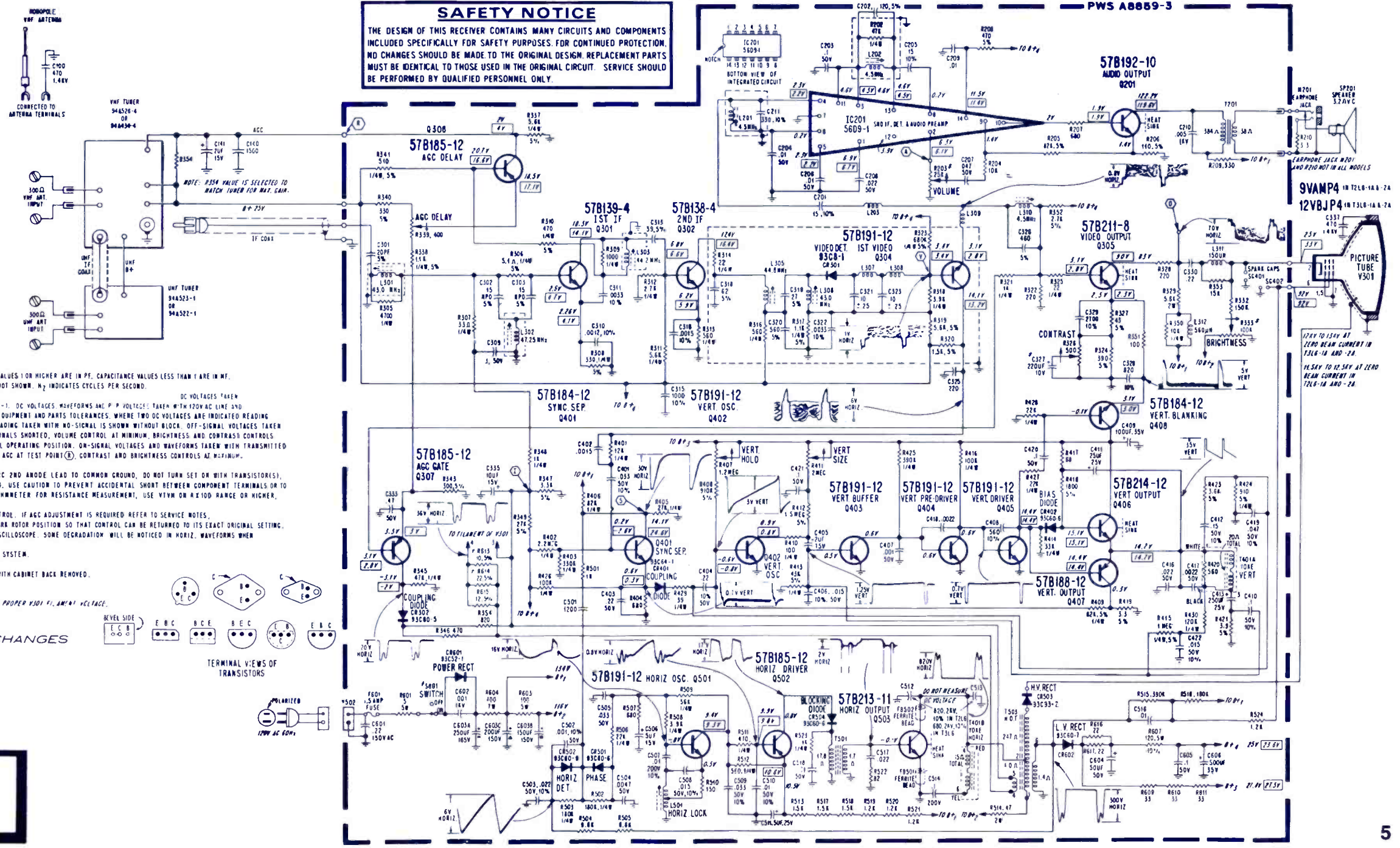
NOTE: REPLACE C501 WITH PART # 61323-1.

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



SYMBOL	DESCRIPTION	ADMIRAL PART NO.
R333	100K, briteness control	75A1-212
R339	400 ohm AGC delay	75A101-35
L201	coil, 4.5MHz	72A317-1
L301	coil, 47.25MHz trap	72A415-8
L306	coil, det.	72A316-8
L310	coil, 4.5MHz, trap	72A317-9
L501	coil, horiz. lock	94A480-1
T201	xformer, audio output	79A172-1
T401	yoke deflect T2L6	94A372-3
T401	yoke deflect T3L6	93A372-4
T501	xformer, horiz. drive	72A417-1
T503	xformer, horiz. output	79A166-4
R203	25K, vol control w/Sw	75A1-225
R326	500 ohm, contrast control	75A1-211
R333	100K, briteness control	75A1-212
R339	400Ω, AGC delay	75A101-35
R411	2 M, vert size	75A101-61
R407	1.2 M, vert hold	75A191-3
F601	fuse, 1.5a	84A7-15

**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.



**SCHEMATIC NOTES:**  
 RESISTOR VALUES 1/2 WATT, 10%. CAPACITANCE VALUES 1 OR HIGHER ARE IN P.F., CAPACITANCE VALUES LESS THAN 1 ARE IN M.F.  
 RESISTANCE VALUES OF COILS LESS THAN 1Ω IS NOT SHOWN.  $\omega_2$  INDICATES CYCLES PER SECOND.  
 VOLTAGE AND WAVEFORM NOTES:  
 DC VOLTAGES TAKEN WITH V.T.M. WITH RESPECT TO COMMON GROUND (B-1). DC VOLTAGES, WAVEFORMS AND P-P VOLTAGES TAKEN WITH 120V AC LINE AND MAY VARY DEPENDING ON CALIBRATION OF TEST EQUIPMENT AND PARTS TOLERANCES. WHERE TWO DC VOLTAGES ARE INDICATED READING TAKEN WITH TV SIGNAL IS SHOWN IN BLOCK, READING TAKEN WITH NO SIGNAL IS SHOWN WITHOUT BLOCK. OFF-SIGNAL VOLTAGES TAKEN ON UNUSED VHF CHANNEL WITH ANTENNA TERMINALS SHORTED, VOLUME CONTROL AT MINIMUM, BRIGHTNESS AND CONTRAST CONTROLS AT MAXIMUM. ALL OTHER CONTROLS IN NORMAL OPERATING POSITION. ON-SIGNAL VOLTAGES AND WAVEFORMS TAKEN WITH TRANSMITTED NOISE FREE SIGNAL PRODUCING 4 TO 5 VOLTS AGC AT TEST POINT (C). CONTRAST AND BRIGHTNESS CONTROLS AT MINIMUM.  
 TRANSISTOR CAUTION:  
 TO AVOID DAMAGE TO TRANSISTORS, DO NOT ARC 2ND ANODE LEAD TO COMMON GROUND, DO NOT TURN SET ON WITH TRANSISTORS (S), TUBE(S) OR LEADS REMOVED OR UNSOLDERED. USE CAUTION TO PREVENT ACCIDENTAL SHORT BETWEEN COMPONENT TERMINALS OR TO COMMON GROUND. DO NOT USE AN ORDINARY OHMMETER FOR RESISTANCE MEASUREMENT. USE V.T.M. ON R X100 RANGE OR HIGHER, AGC CAUTION.  
 DO NOT DISTURB FACTORY SETTING OF AGC CONTROL. IF AGC ADJUSTMENT IS REQUIRED REFER TO SERVICE NOTES.  
 IF NECESSARY TO DISTURB AGC ADJUSTMENT, MARK ROTOR POSITION SO THAT CONTROL CAN BE RETURNED TO ITS EXACT ORIGINAL SETTING.  
 \* ALL WAVEFORMS TAKEN WITH A WIDE-BAND OSCILLOSCOPE. SOME DEGRADATION WILL BE NOTICED IN HORIZ. WAVEFORMS WHEN USING NARROW BANDPASS EQUIPMENT.  
 \* COMPONENT NOT MOUNTED ON PRECISION WIRED SYSTEM.  
 WARNING:  
 USE ISOLATION TRANSFORMER WHEN SERVICING WITH CABINET BACK REMOVED.  
 † COMMON GROUND (B-1).  
 ‡ REPLACE WITH SAME PART NO. AS ORIGINAL.  
 § RESISTORS MAY BE REMOVED AT FACTORY FOR PROPER V501 FILAMENT WELTAGE.



**ADMIRAL**  
 TV Chassis TL6

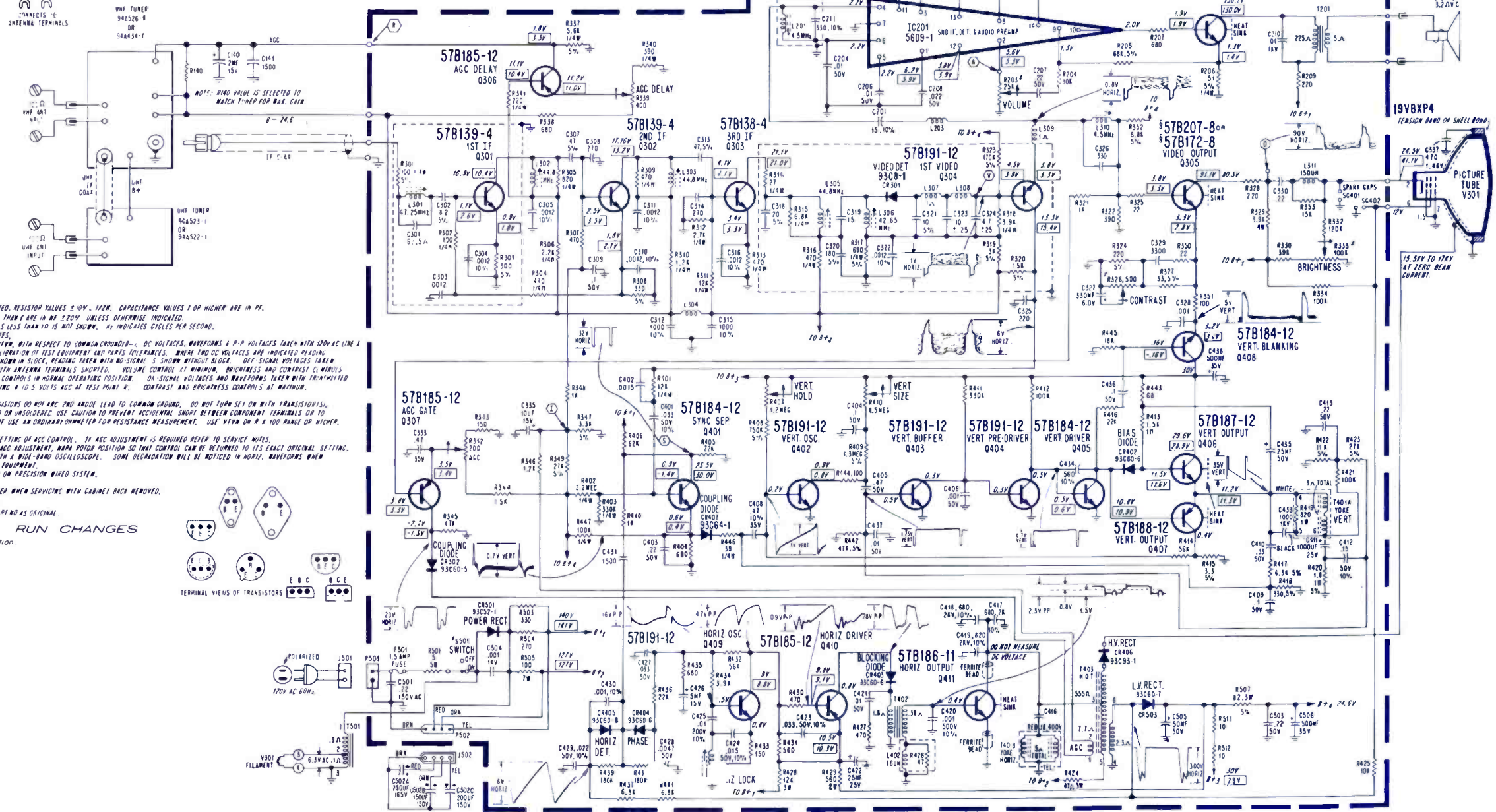
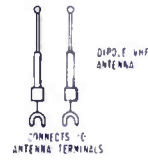




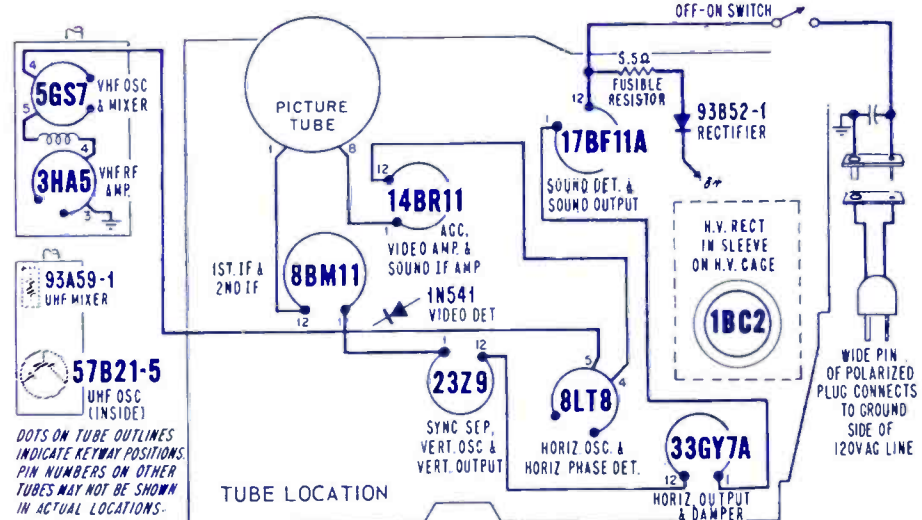


MODEL CHART						
MODEL	FINISH	CRT	VHF	UHF	CHASSIS	CURRENT
SK 19B667	White	19VBXP4	94A526-1	94A523-1	T21K8-1B	.70 Amps
SK 19B667M	White	19VBXP4	94A434-1	94A522-1	T21K8-2B	@120VAC

**SAFETY NOTICE**  
THE DESIGN OF THIS RECEIVER CONTAINS MANY CIRCUITS AND COMPONENTS INCLUDED SPECIFICALLY FOR SAFETY PURPOSES. FOR CONTINUOUS 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.

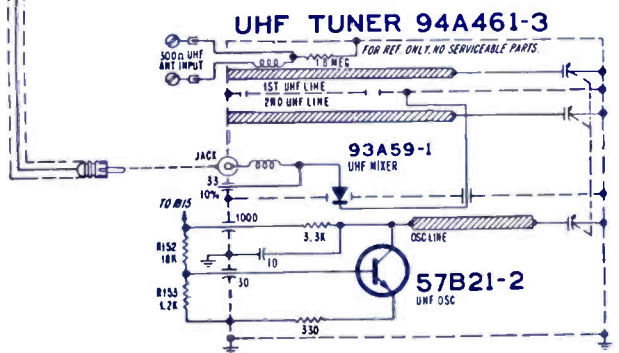
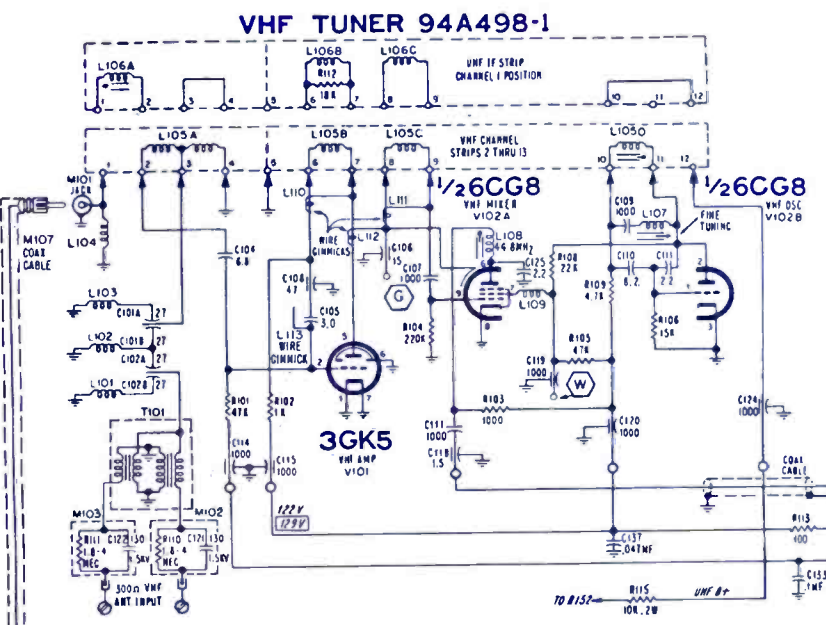


SYMBOL	DESCRIPTION	ADMIRAL PART NO.
R208	1M volume, triple control w/switch	75A126-B
R311	25K contrast, triple control w/switch	75A126-B
R313	100K brite, triple control w/switch	75A126-B
R411	5M height control	75A101-16
R412	1M therm	61A41-2
R417	1.2M, vert hold control	75A100-8
R421	500K vert lin control	75A101-17
C503A	250µf, 165v electro	67A30-12
C503B	200µf, 150v electro	67A30-12
C503C	50µf, 150v electro	67A30-12
L202	quad coil	72A132-82
L301	47.25MHz trap	72A308-1
L307	video peak	73A5-40
L401	horiz lock coil	94A17-19
T201	audio output xformer	79A124-1
T401	vert output xformer	79A123-1
T403	horiz output diode	79A138-25
F501	2.5a fuse	93A8-1
		84A7-14

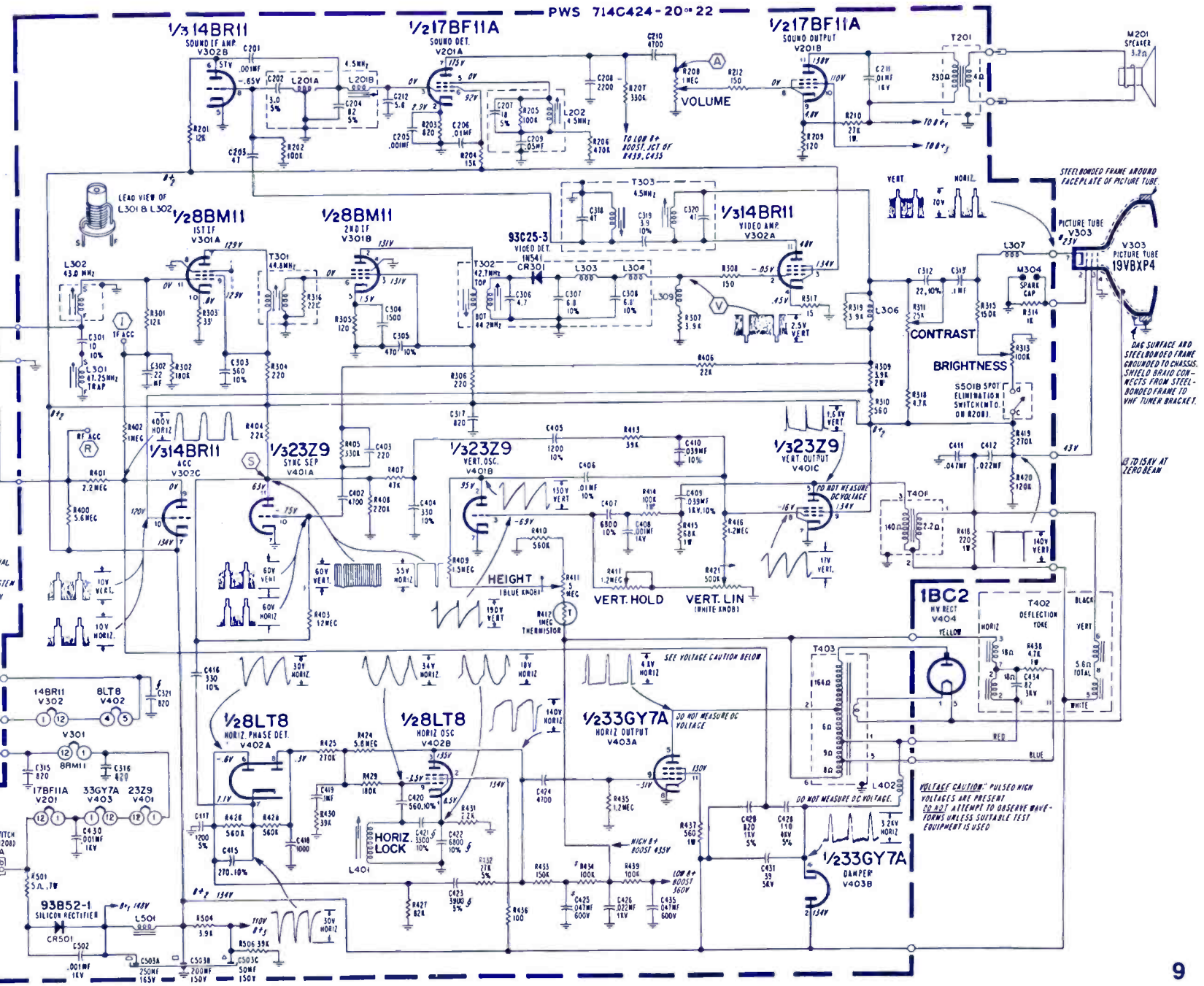


DOTS ON TUBE OUTLINES INDICATE KEYWAY POSITIONS. PIN NUMBERS ON OTHER TUBES MAY NOT BE SHOWN IN ACTUAL LOCATIONS.

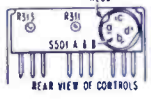
RUN CHANGES.  
 10 Start of production.



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 PICO FARADS UNLESS OTHERWISE INDICATED  
 \* DC VOLTAGES MEASURED WITH 100K AC LINE, NO SIGNAL  
 \* MAX. CONTRAST & BRIGHTNESS & MIN VOLUME  
 \* COMPONENT MOUNTED AT UNDERSIDE OF PRECISION WIRED SYSTEM  
 \* WARNING: USE ISOLATION TRANSFORMER WHEN SERVICING WITH CABINET BACK REMOVED.

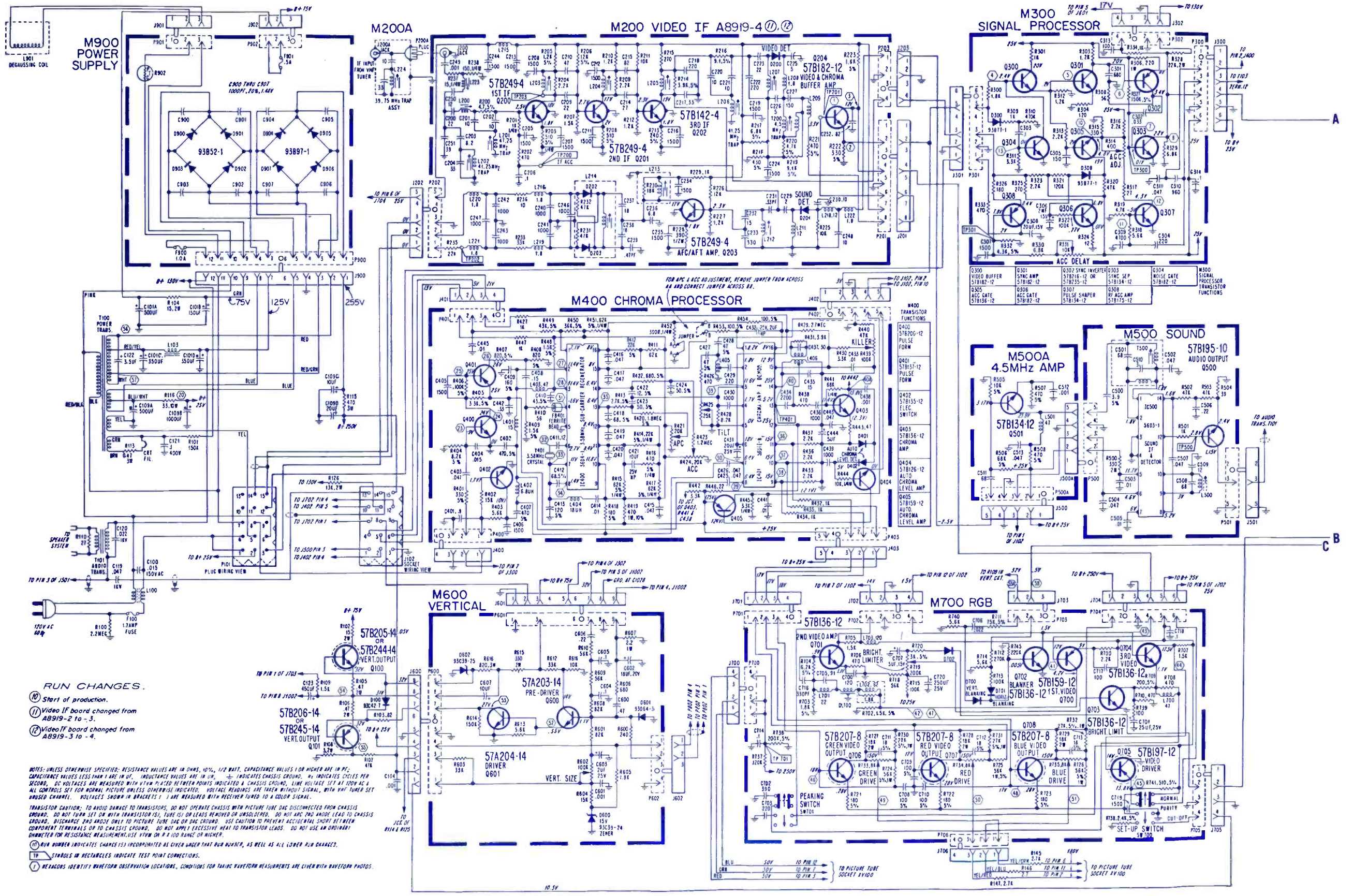


**ADMIRAL**  
 TV Chassis  
 T35H4-2B



# ADMIRAL

Color TV Chassis  
1M30



**RUN CHANGES:**

- (M) Start of production.
- (N) Video IF board changed from A8919-2 to 10-3.
- (O) Video IF board changed from A8919-3 to 10-4.

**NOTES:** UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, 10%, 1/2 WATT. CAPACITANCE VALUES 10R HIGHER ARE IN PF; CAPACITANCE VALUES LESS THAN 1 ARE IN UF. INDUCTANCE VALUES ARE IN MH. ± INDICATES CYCLES PER SECOND. DC VOLTAGES ARE MEASURED WITH VTM PLACED BETWEEN POINTS INDICATED. A CHASSIS GROUND. LINE VOLTAGE SET AT 100V AC. ALL CONTROLS SET FOR NORMAL PICTURE UNLESS OTHERWISE INDICATED. VOLTAGE READINGS ARE TAKEN WITHOUT SIGNAL, WITH VMT TUNER SET UNLESS CHANNEL. VOLTAGES SHOWN IN BRACKETS ( ) ARE MEASURED WITH RECEIVER TUNED TO A COLOR SIGNAL.

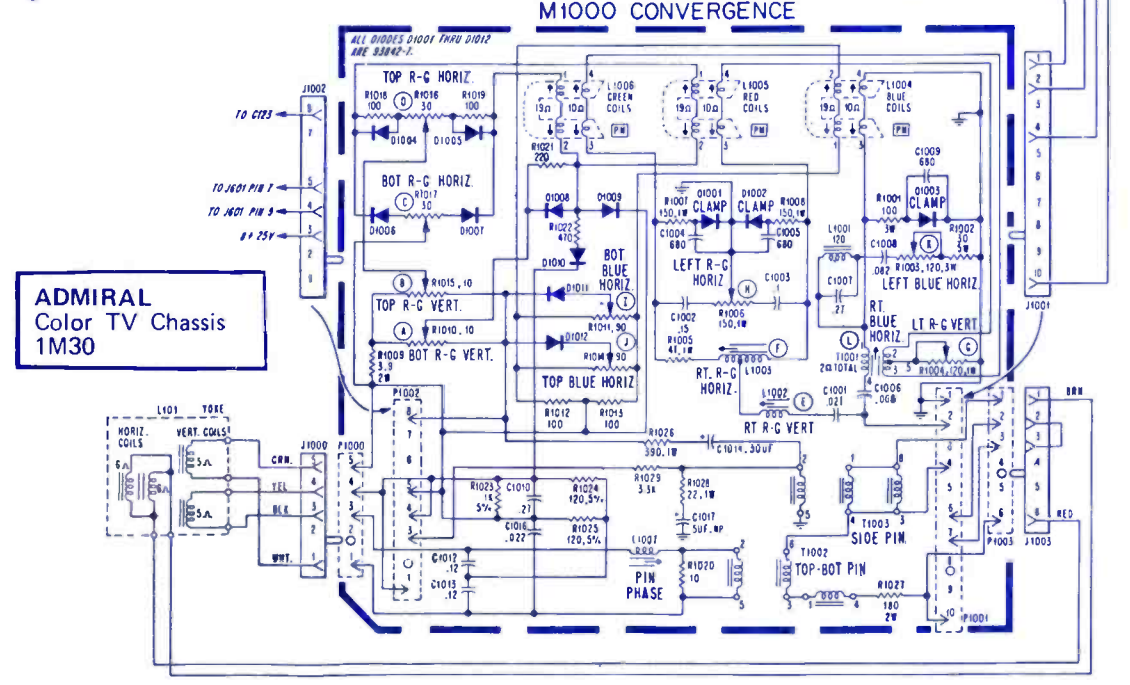
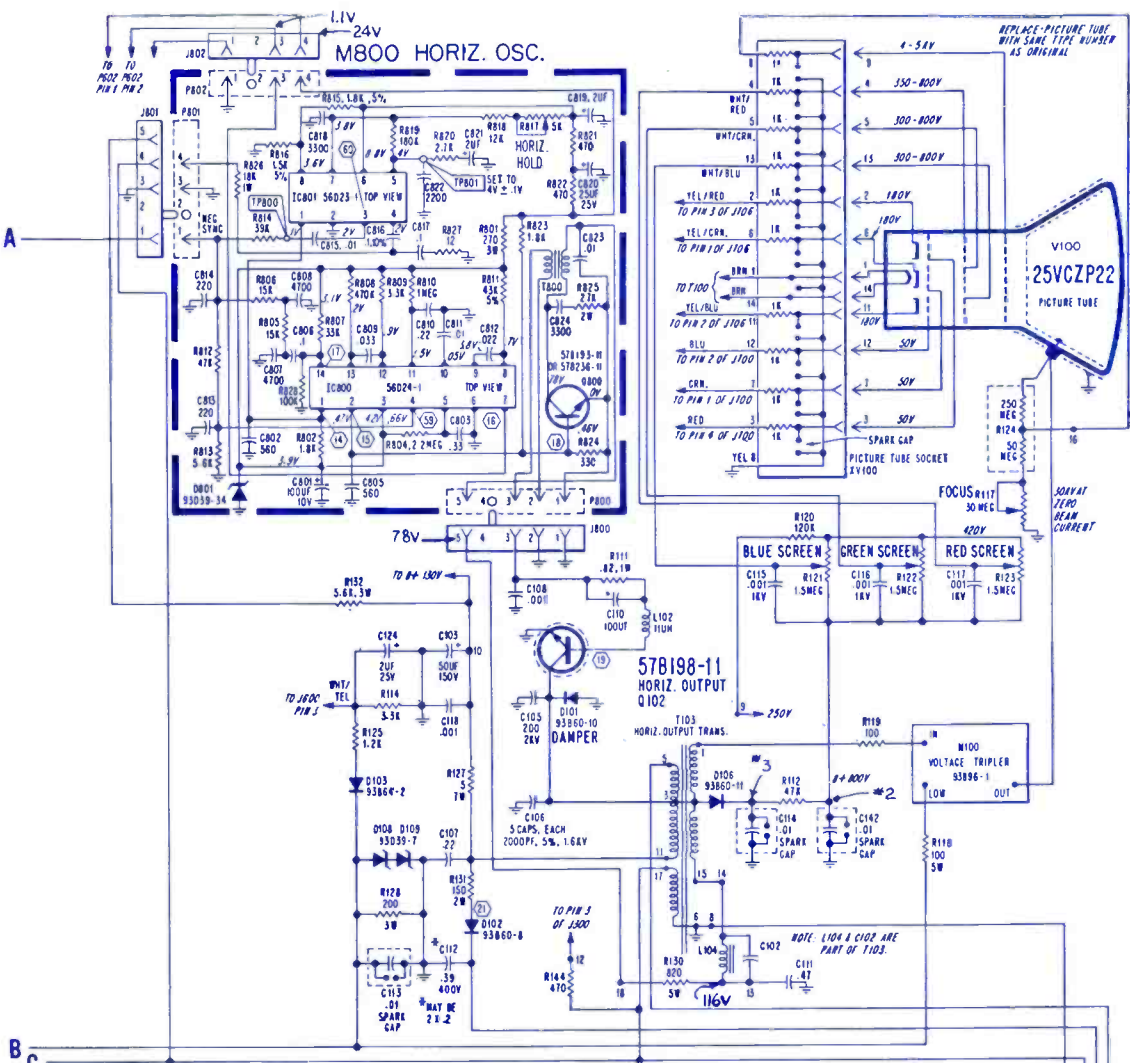
**TRANSISTOR CAUTION:** TO AVOID DAMAGE TO TRANSISTORS, DO NOT OPERATE CHASSIS WITH PICTURE TUBE DISCONNECTED FROM CHASSIS GROUND. DO NOT TURN SET ON WITH TRANSISTOR IS, TUBE IS OR LEADS REMOVED OR UNSOLDERED. DO NOT ARC AND/OR LEAD TO CHASSIS GROUND. DISCHARGE AND/OR ONLY TO PICTURE TUBE DAC OR DAC GROUND. USE CAUTION TO PREVENT ACCIDENTAL SHORTS 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 VTM ON R X 100 RANGE OR HIGHER.

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

(T) SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

(V) HEADERS IDENTIFY WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOS.

SYMBOL	DESCRIPTION	ADMIRAL PART NO.		
R124	— focus module	61A72-1	R117	— 30M, focus control
C101A, B	— 350µf/200v, 350µf/200v, 150µf/100v,		R129	— 6K vert center control
C, D	— 500µf/100v electro	67A15-421	R817	— 5K, horiz hold
C109A, B	— 500µf/500v, 1000µf/35v, 300µf/15v,		L406	— coil, chroma bandpass
C, D	— electro	67A15-430	L100	— choke, AC line
R439	— 100K, color killer	75A101-63	T100	— xformer, power
R719	— 200K, bri limiter	75A101-28	T101	— xformer, audio
R602	— 100K, vert size	75A101-60	T103	— xformer, horiz output
			L500	— coil, quad
			F100	— fuse, 1.7a
				75A108-8
				75A64-53
				75A101-64
				73A137
				73A31-22
				80A125-4
				79A141-1
				79A177-3
				72A329-1
				84A28-6



ADMIRAL Color TV Chassis 1M30

1 Q204 Base, 2V, H  
2 Q204 Emitter, 2V, H

3 Q204 Collector, 10V, H

4 Q300 Base, 1.3V, H  
5 Q301 Base, 1.25V, H

6 Q302 Base, 10V, H

7 Q303 (TP300) Base, 1.5V, H

8 Q303 Collector, 33V, H

9 Q305 Base, 0.8V, H

10 Q305 Emitter, 4V, H  
(Varies with setting of AGC Control)

11 Q307 Base, 2.2V, H

12 Q307 Collector, 5.4V, H

13 Q304 Base, 0.8V, H

14 IC800 Pin 1, 1.8V, H

15 IC800 Pin 2, 0.65V, H

16 IC800 Pin 7, 1.2V, V

17 IC800 Pin 14, 5V, V

18 Q800 Base, 0.65V, H

19 Q102 Base, 62V, H

20 B+ ripple, 25V supply, 0.4V, V

21 D102 and C107 Junction, 76V, V

23 Q400 Base, 2V, H

24 Q400 Collector, 25V, H

25 Q401 Base, 8V, H

26 Q401 Collector, 25V, H

27 IC400 Pin 2, 2.3V, 3.58 MHz

28 IC400 Pin 3, 1.8V, 3.58 MHz

29 IC401 Pin 6, 1.3V, w/CM, 3.58 MHz

IC401 Pin 6, 1.2V, w/o CM, 3.58 MHz

30 IC401 Pin 7, 0.9V, w/CM, 3.58 MHz

IC401 Pin 7, 1.2V, w/o CM, 3.58 MHz

31 IC400 Pin 4, 3.6V, H

32 IC400 Pin 6, 1V, 3.58 MHz

33 IC400 Pin 7, 1.2V, 3.58 MHz

34 IC400 Pin 8, 1.3V, 3.58 MHz

35 IC400 Pin 13, 0.2V, H

36 IC401 Pin 11, 6V, H

37 IC401 Pin 10, 5V, H

38 IC401 Pin 9, 2V, H

39 IC401 Pin 3, 0.55V, H

40 TP400, 1.4V, H

40A Q403 Collector, 0.4V, H

41 Q700 Base, 10V, H

42 Delay line output, 1.7V, H

44 Q705 Base, 11V, H

45 Q705 Emitter, 11V, H

43 Q704 Base, 2.3V, H

46 Q706 Base, 2V, H

47 Q707 Base, 4V, H

48 Q708 Base, 6V, H

49 Q706 Collector, 130V, H  
w/CM  
Q706 Collector, 90V, H  
w/o CM  
(Drive control at maximum)

50 Q707 Collector, 150V, H  
w/CM  
Q707 Collector, 100V, H  
w/o CM  
(Drive control at maximum)

51 Q708 Collector, 150V, H  
w/CM  
Q708 Collector, 100V, H  
w/o CM  
(Drive control at maximum)

52 Q600 Emitter, 0.65V, V

53 Q601 Collector, 60V, V

53A P703 Pin 1, 42V, V

54 Q100 and Q101 Emitter, 42V, V

55 Q101 Collector, 1.75V, V

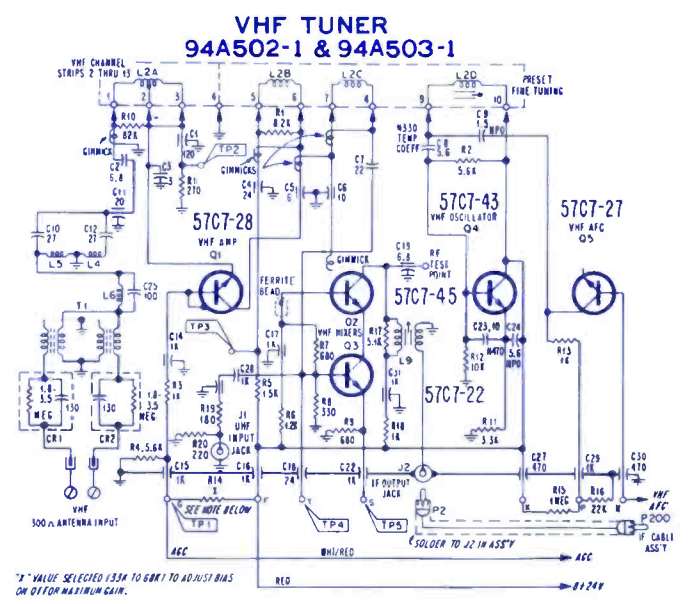
56 C122 Positive Terminal, 250V, V

57 C122 Negative Terminal, 600V, V

58 P703 Pin 2, 230V, H

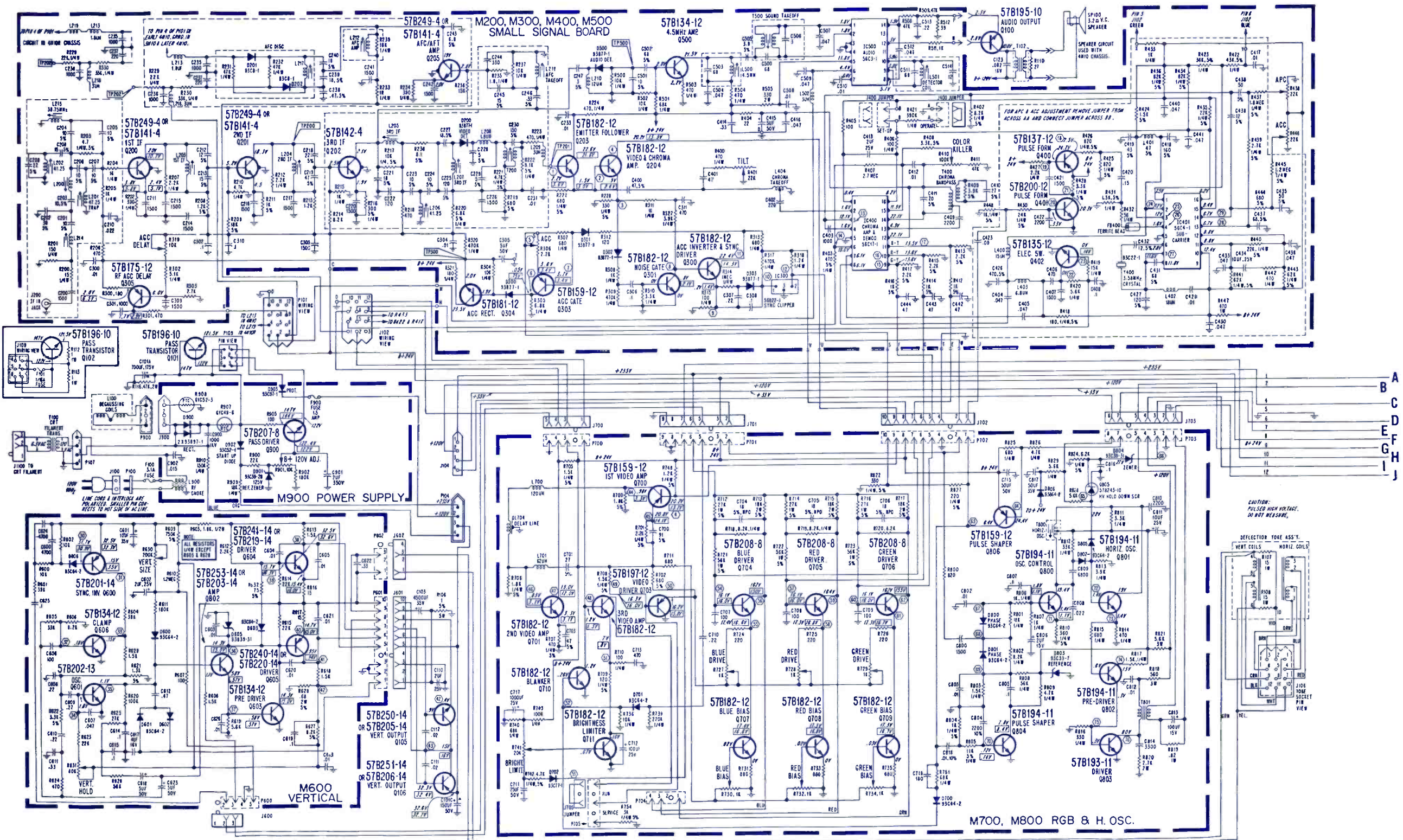
59 IC800 Pin 4, 1V, V

60 IC801 Pin 3, 6.5V, H

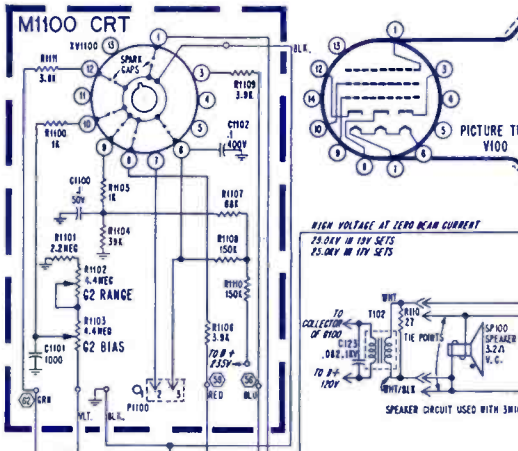
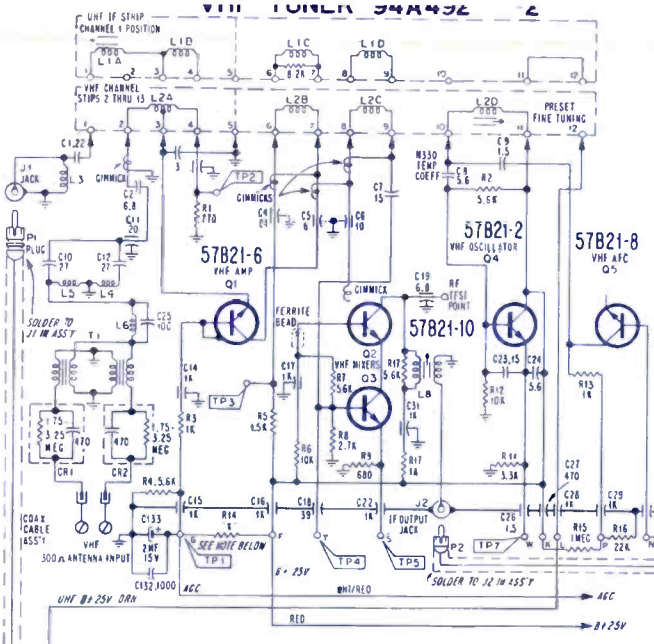
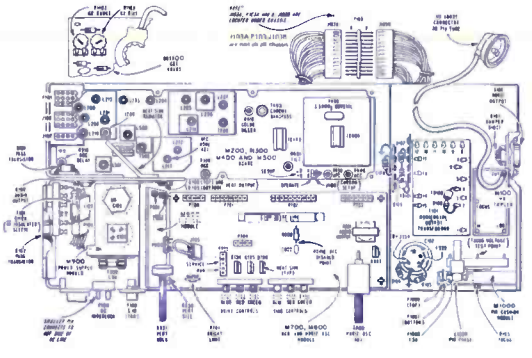


\* V+ VALUE SELECTED 133A TO GARY TO ADJUST BIAS ON Q708 MAXIMUM GAIN.

**ADMIRAL**  
Color TV Chassis  
3M10/4M10/4M10R

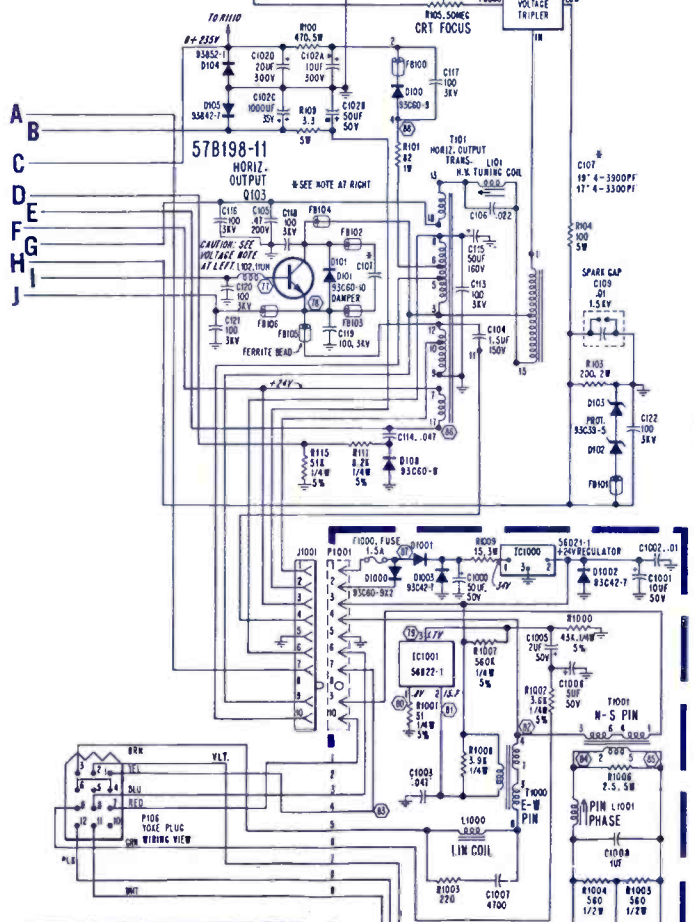
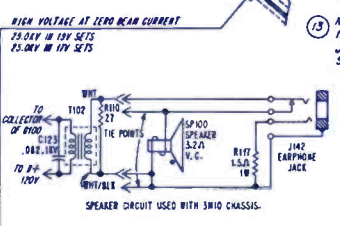


M700, M800 RGB & H. OSC.



PIN	TUBE SIZE	PICTURE TUBE TYPE	USED IN CHASSIS
17V	17VAJTC02	3M10	
19V	19VEJTC02	4M10	
19V	19VEJTC02	4M10R	

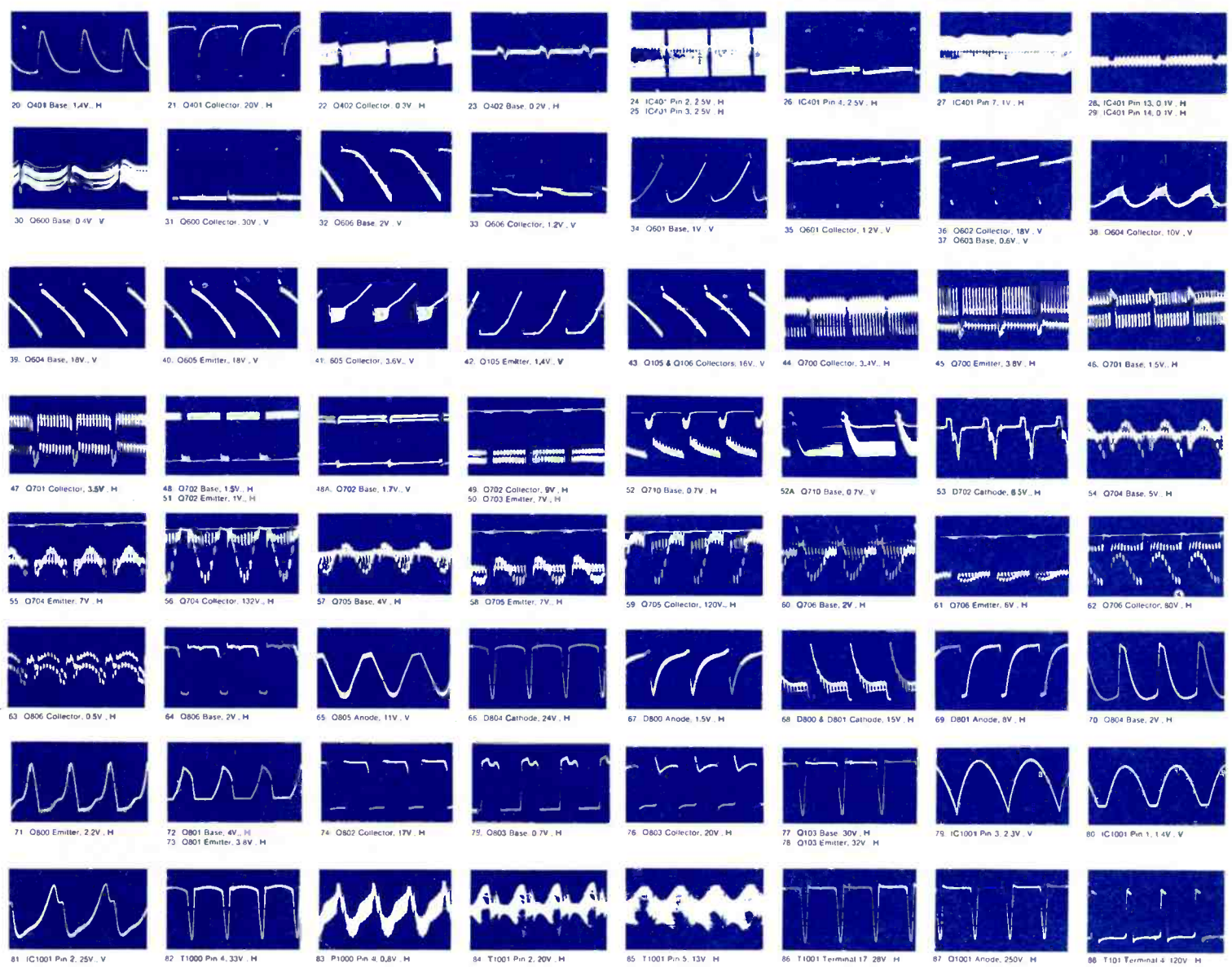
- RUN CHANGES**
- 10 Start of 4M10 production.
  - 11 Small signal Board changed from A895-2 to -3. Start of 3M10 production.
  - 12 M700, M800 RGB & HOSC Board changed from A895-1 to -5. M900 Power Supply Board changed from A895-2 to -3.
  - 13 M1000 Pin Cushion Board changed from A895-2 to -3. Connectors J1000 & P1000 were omitted. Start of 4M10R production.



**CANTON:** TO AVOID DAMAGE TO T1000, DISCONNECT SOCKET J1001 WHEN APPLYING EXTERNAL PWR DURING ALIGNMENT OR SERVICING WITH SET TURNED ON.

**NOTES:** UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS, 10% 1/2 WATT, CAPACITANCE VALUES 1 OR HIGHER ARE IN P.F., CAPACITANCE VALUES LESS THAN 1 ARE IN P.F., INDUCTANCE VALUES ARE IN MH.   
 - indicates chassis ground.   
 - indicates cycles per second.   
 DC VOLTAGES ARE MEASURED WITH PTPM PLACED BETWEEN POINTS INDICATED & CHASSIS GROUND. LINE VOLTAGE SET AT 100VAC & ALL CONTROLS SET FOR NORMAL PICTURE UNLESS OTHERWISE INDICATED. VOLTAGE READINGS ARE TAKEN WITHOUT SIGNAL, WITH TUNER SET TO UNUSED CHANNEL. VOLTAGES SHOWN IN BOX ARE MEASURED WITH RECEIVER TUNED TO A COLOR SIGNAL.   
**TRANSISTOR CAUTION:** TO AVOID DAMAGE TO TRANSISTORS, DO NOT OPERATE CHASSIS WITH PICTURE TUBE BAG DISCONNECTED FROM CHASSIS GROUND. DO NOT TURN SET ON WITH TRANSISTORS, TUBES OR LEADS REMOVED OR UNCONNECTED. DO NOT ARC PWR ANODE LEAD TO CHASSIS GROUND. DISCHARGE PWR ANODE ONLY TO PICTURE TUBE BAG OR BAG 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 INDIANLY HEATED OR RESISTANCE MEASUREMENTS. USE PTPM ON R-1000 RANGE OR HIGHER.   
 BOX NUMBER INDICATES CHANGE(S) INCORPORATED AS GIVEN. NUMBER THAT BOX NUMBER, AS WELL AS ALL OTHER BOX CHANGES.   
 10 SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.   
 11 HEADINGS IDENTIFY WAVEFORM OBSERVATION LOCATIONS. CONNECTIONS FOR TAKING WAVEFORM OBSERVATIONS ARE GIVEN WITH WAVEFORM PATTERNS.

**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.



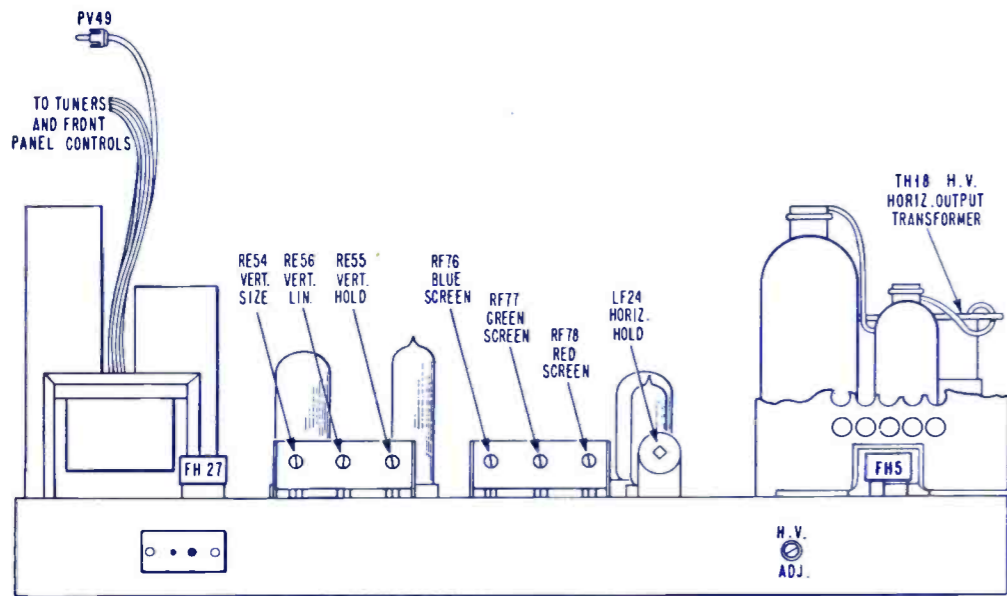
ADMIRAL  
 Color TV Chassis  
 3M10/4M10/4M10R

# ADMIRAL

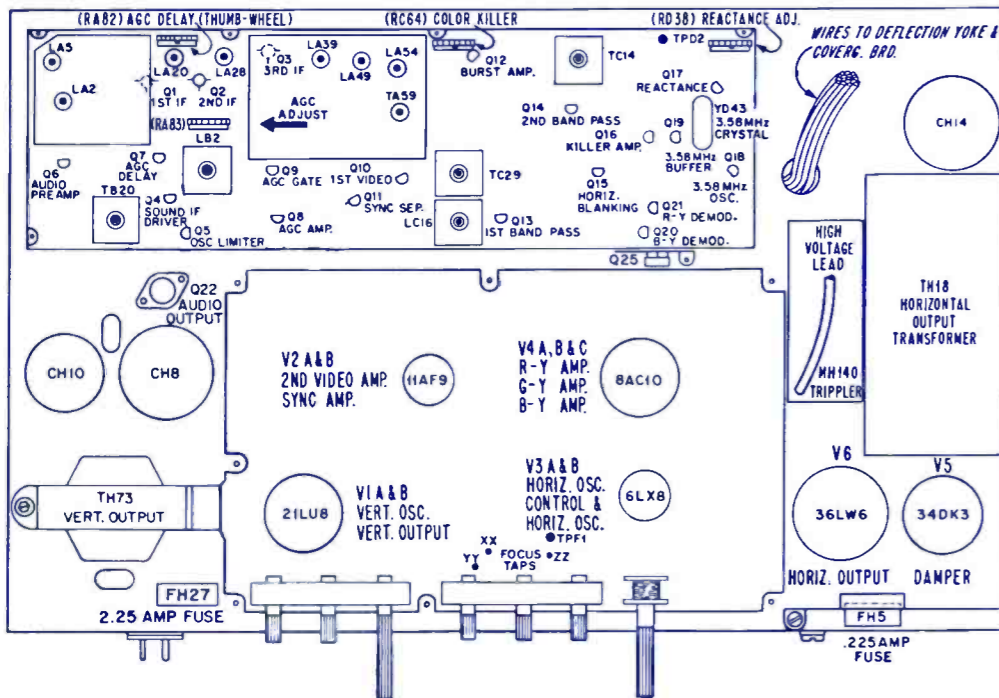
Color TV Chassis  
T43K10, T44K10

SYMBOL	DESCRIPTION	ADMIRAL PART NO.
RA83	2K AGC con	75A101-31
RC64	10K color kill con	75A101-18
RD38	400 ohm, react con	75A101-35
RE54	vert size con	
RE55	vert hold triple control	75A95-18
RE56	vert lin cont, 300K	
RH28,34	dual con-brite & tint	
	T43K10-4A	75A194-1
RH29,39	dual con-contrast & color	
	T43K10-4A	75A194-2
RH34	500 ohm, slide tint con	
	T44K10-4A	75A140-17
RH39	500 ohm, color slide con	
	T44K10-4A	75A140-17
RH125	high vol adj 5 M, con	75A135-57
CH10A	300mf, 350V	
CH10B	300mf, 350V	

CH10C	80mf, 350V	elect	67A15-415
CH10D	10mf, 350V		
LA20	1st IF xformer		72A316-8
LA28	2nd IF xformer		72A316-10
LA39	3rd IF xformer		72A316-12
LC16	chroma input coil		72A329-1
LF24	horiz hold con		94A351-1
TA59	4.5 MHz trap		72A216-7
TB20	ratio xformer		72A318-1
TC14	burst xformer		72A325-3
TC29	bandpass xformer		72A327-1
TH4	power xformer		80A108-14
TH18	horiz output xformer		79A169-1
TH44	audio output xformer		79A141-4
TH73	vert output xformer		79A165-1
FH5	225a fuse		84A28-12
FH27	2.25a fuse		84A28-16
MH140	tripler, H.V.		93A91-3



## BACK DRAWING OF CHASSIS



NOTES: UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, KW, MW, OR WATT; CAPACITANCE VALUES 1 OR HIGHER ARE IN PF; CAPACITANCE VALUES LESS THAN 1 ARE IN UF; INDUCTANCE VALUES ARE IN MH. ⊕ INDICATES CHASSIS GROUND. ♀ INDICATES CYCLES PER SECOND. DC VOLTAGES ARE MEASURED WITH VTM PLACED BETWEEN POINTS INDICATED IN CHASSIS GROUND. LINE VOLTAGE SET AT 100V AC AT 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 OR DAMAGE TO TEST EQUIPMENT.

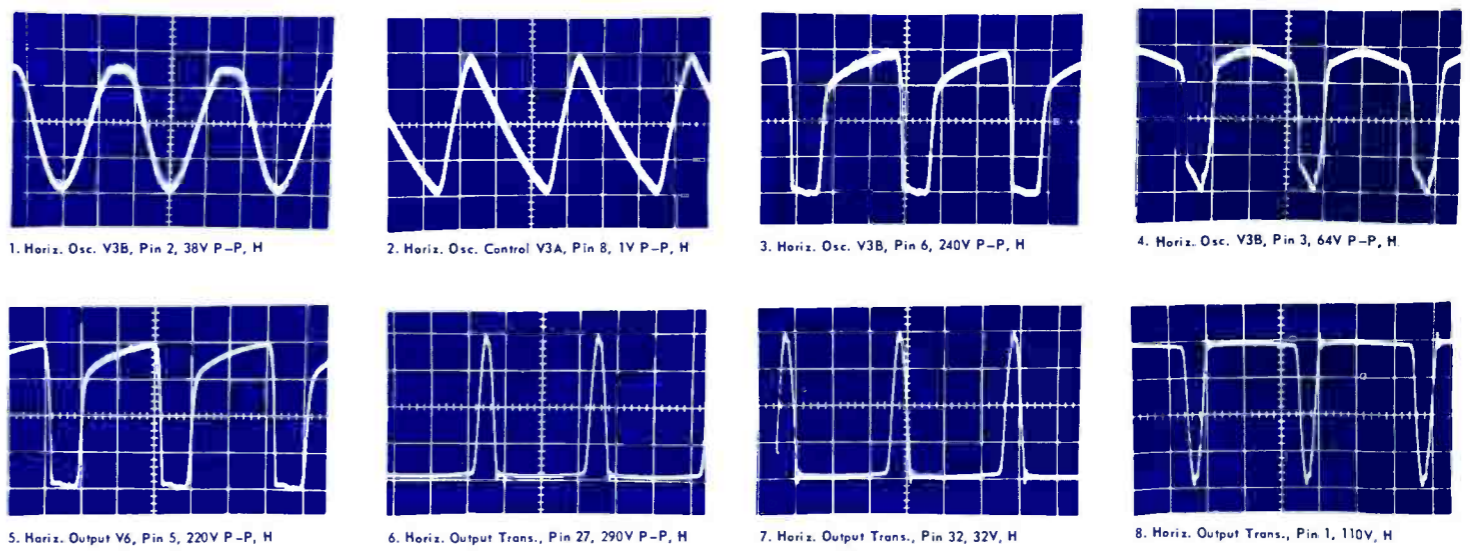
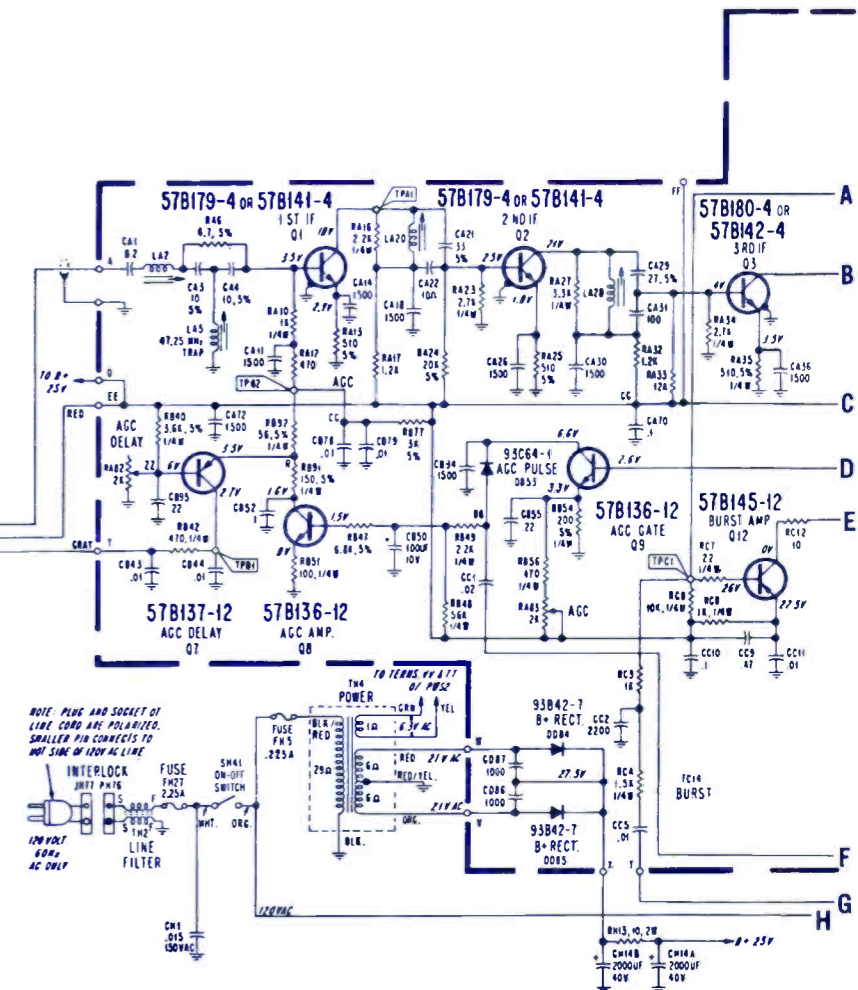
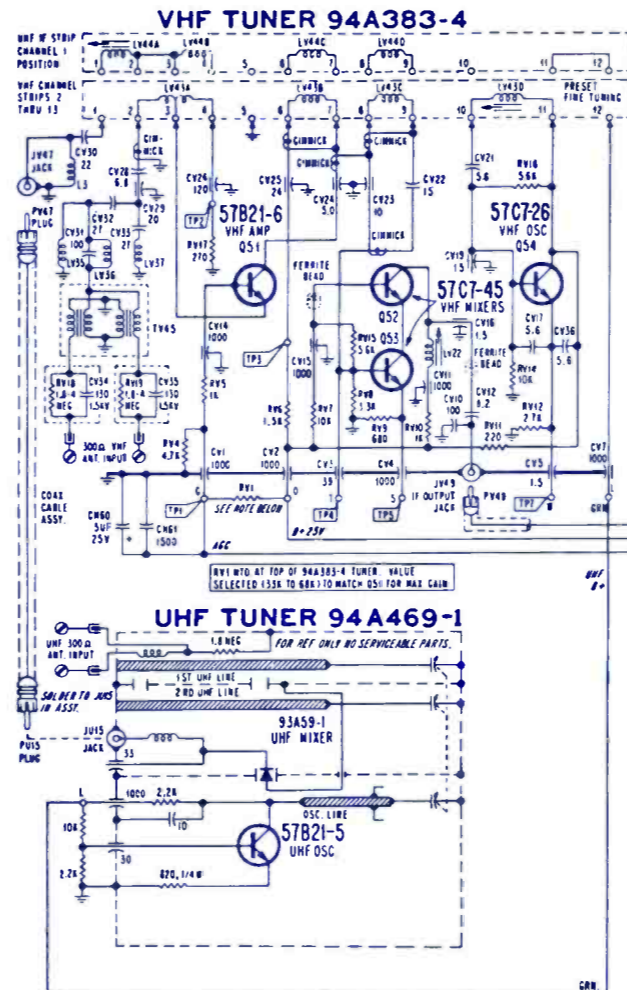
TRANSISTOR CAUTION: TO AVOID DAMAGE TO TRANSISTORS, DO NOT OPERATE CHASSIS WITH PICTURE TUBE BAG DISCONNECTED FROM CHASSIS GROUND. DO NOT TURN SET ON WITH TRANSISTOR (S), TUBE (S) OR LEADS REMOVED OR UNSOLDERED. DO NOT ARC BURN ABOVE LEAD TO CHASSIS GROUND. DISCHARGE TUBE AND/OR TO PICTURE TUBE BAG OR GND 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 DERMETER FOR RESISTANCE MEASUREMENT. USE VTM ON 0-100 RANGE OR HIGHER.

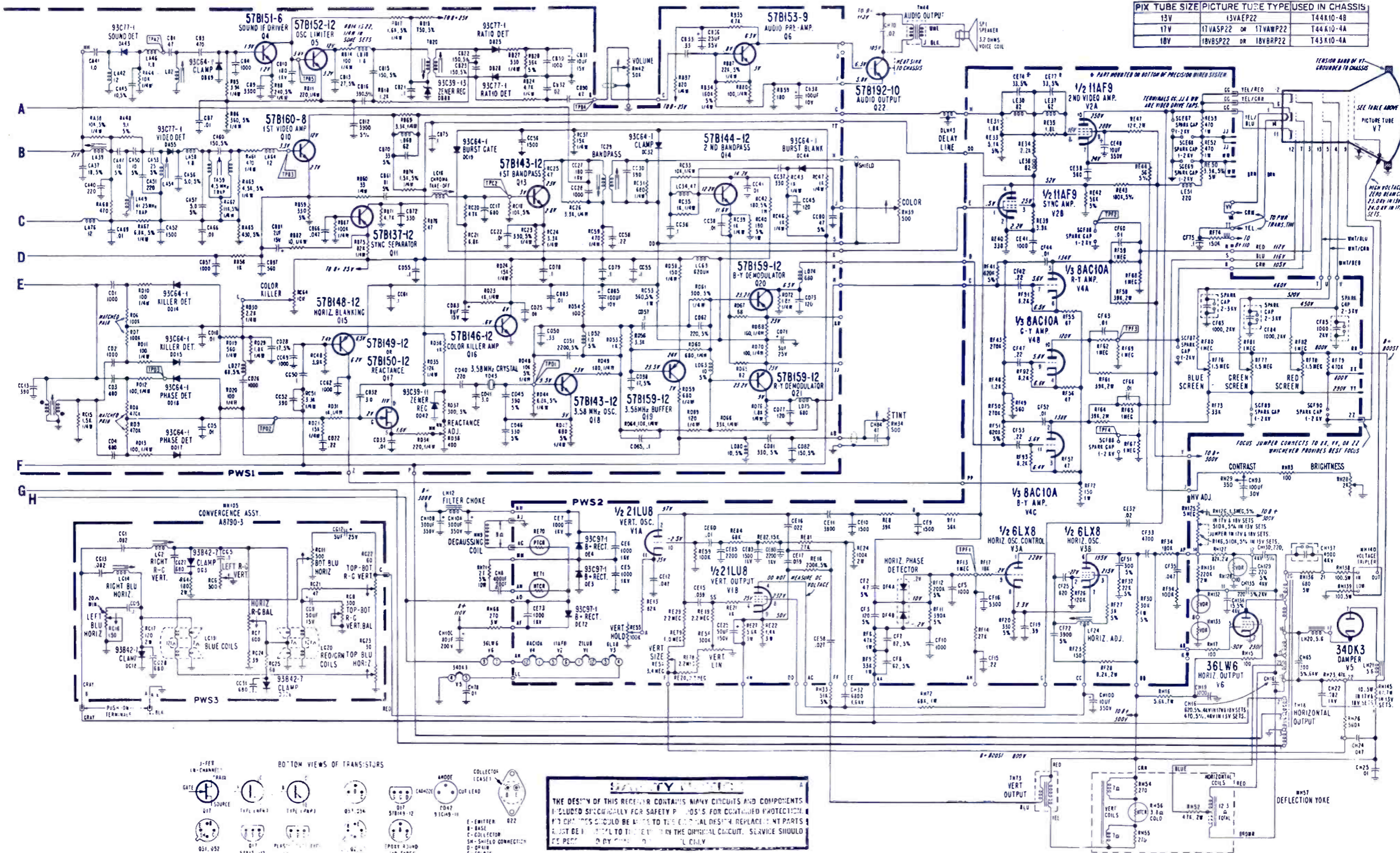
① AND NUMBER INDICATES CHANGE (S) INCORPORATED AS GIVEN UNDER THAT PART NUMBER, AS WELL AS ALL LOWER PART CHANGES.

⊕ SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

⊙ READING IDENTIFY TRANSFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING DIRECTIONAL MEASUREMENTS ARE GIVEN WITH DIRECTIONAL PHOTOGRAPHS.

PHYS. CHANGES.  
① START OF PRODUCTION





PIX TUBE SIZE	PICTURE TUBE TYPE USED IN CHASSIS	
13V	13VAP22	T44K10-4B
17V	17VAP22 OR 17VAMP22	T44K10-4A
18V	18VSP22 OR 18VBP22	T43K10-4A

**ADMIRAL**  
Color TV Chassis  
T43K10, T44K10

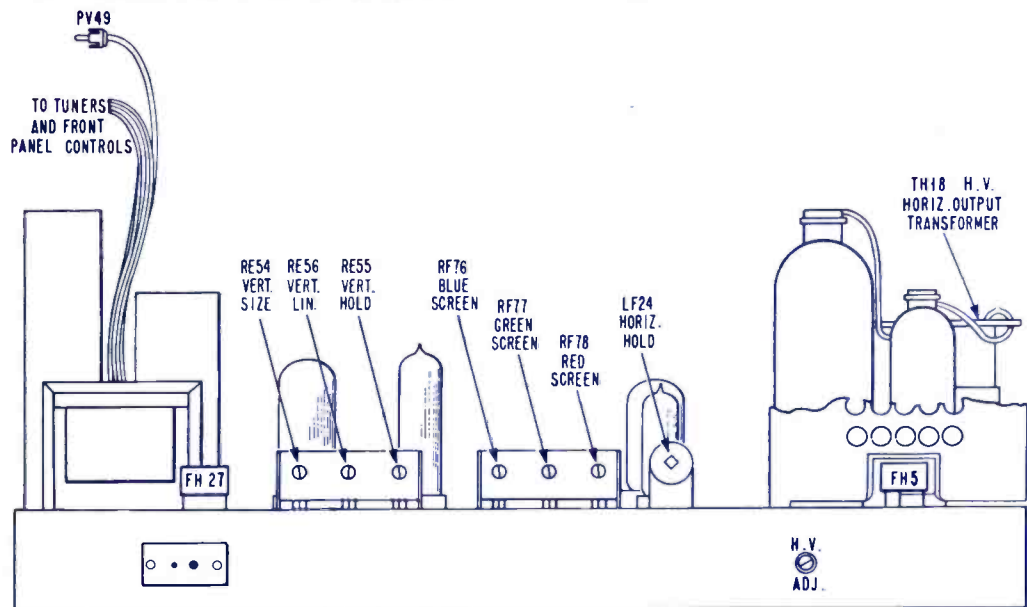


# ADMIRAL

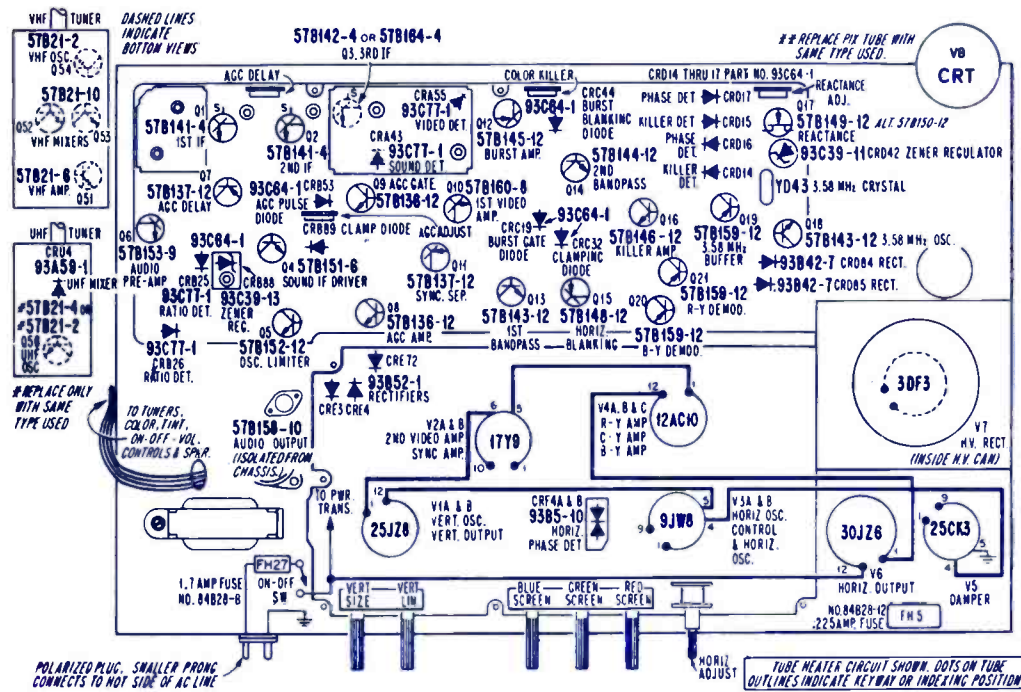
Color TV Chassis  
T50K10-4B

SYMBOL	DESCRIPTION	ADMIRAL PART NO.
CH10A	— 200mf, 350	
CH10B	— 160mf, 350	
CH10C	— 80mf, 350v	v elect . . . . . 67A15-403
CH10D	— 10mf, 350v	
LC16	— chroma input coil	. . . . . 72A329-1
LC34	— 47µh, 2nd bandpass coil	. . . . . 73A55-28
LF24	— horiz hold con	. . . . . 94A351-1
TA59	— 4.5MHz trap	. . . . . 72A216-7
TB20	— ratio xformer	. . . . . 72A318-1

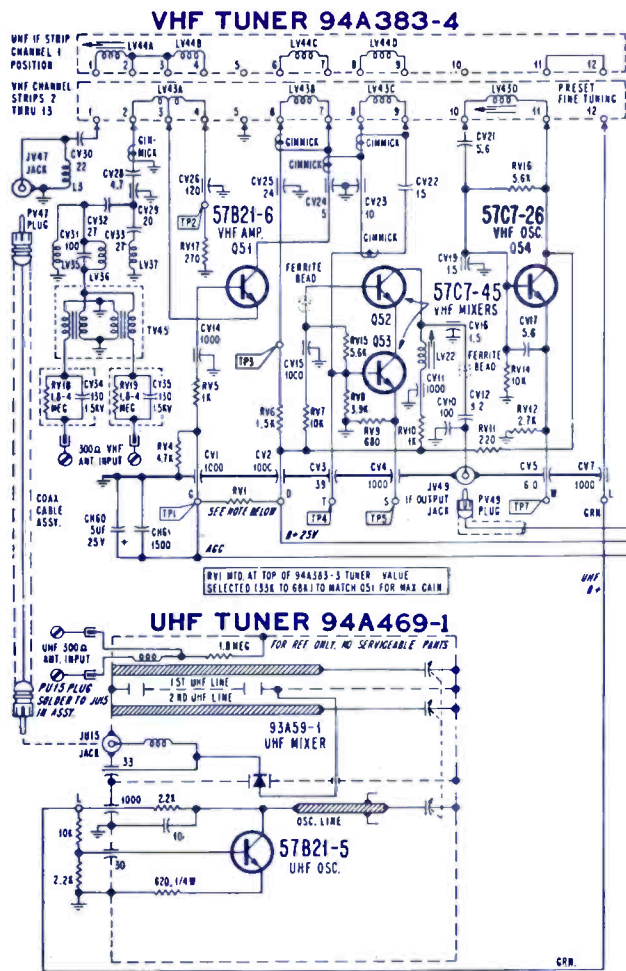
TC14	— burst xformer	. . . . . 72A325-3
TC29	— bandpass xformer	. . . . . 72A327-1
TH2	— line choke	. . . . . 73A31-16
TH4	— power xformer	. . . . . 80A108-14
TH18	— horiz output xformer	. . . . . 79A158-3
TH44	— audio output xformer	. . . . . 79A141-4
TH73	— vertical output xformer	. . . . . 79A165-1
FH5	— .225a fuse	. . . . . 84A28-12
FH27	— 1.7a fuse	. . . . . 84A28-6
	tuner, VHF	. . . . . 94A383-4
	deflect yoke	. . . . . 94A379-13



BACK DRAWING OF CHASSIS

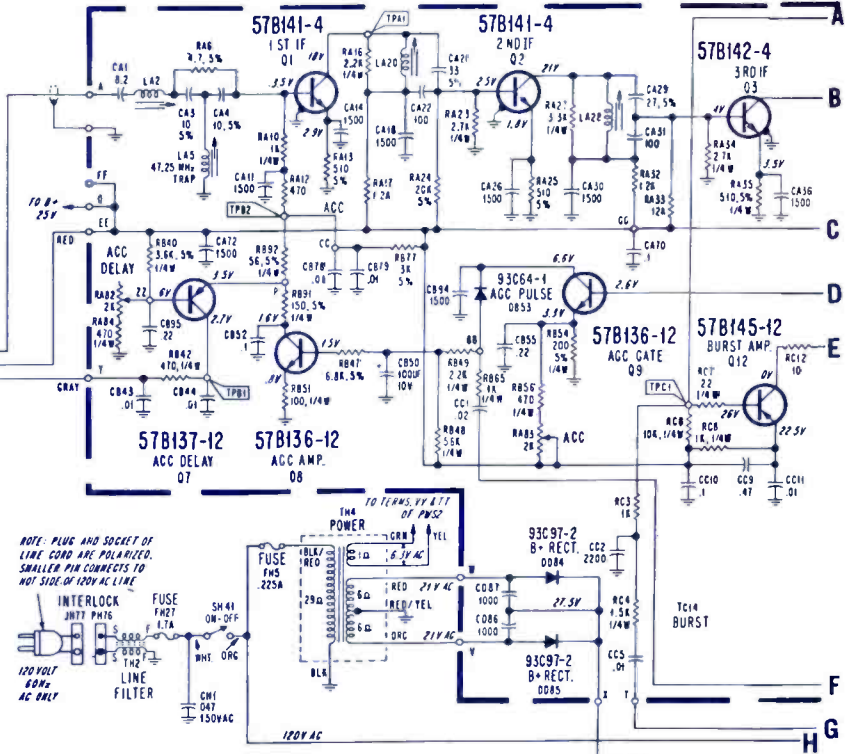


TOP DRAWING OF CHASSIS



RUN CHANGES

(10) Start of production



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

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 µF; INDUCTANCE VALUES ARE IN µH; ⊕ INDICATES CHASSIS GROUND; M<sub>1</sub> 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 VOLTAGE 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.

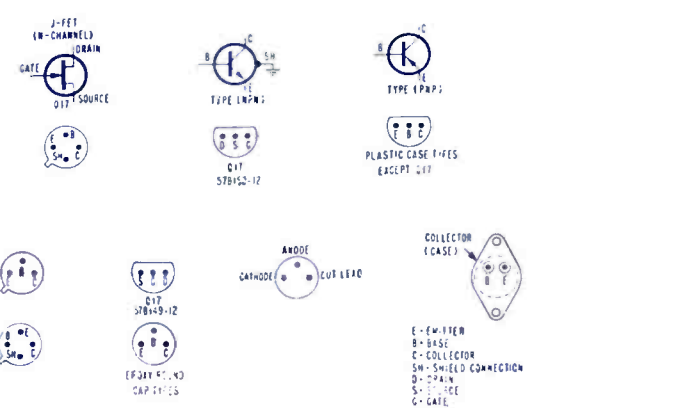
TRANSISTOR CAUTION: TO AVOID DAMAGE TO TRANSISTORS, DO NOT OPERATE CHASSIS WITH PICTURE TUBE (AG DISCONNECTED FROM CHASSIS GROUND. DO NOT TURN SET ON WITH TRANSISTOR (S), TUBE (S) OR LEADS REMOVED OR UNSOLDERED. DO NOT ARC 2ND ANODE LEAD TO CHASSIS GROUND. DISCHARGE 2ND ANODE ONLY TO PICTURE TUBE OR TO GND GROUND. USE CAUTION TO PREVENT ACCIDENTAL SHORTS 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 R150 RANGE OR HIGHER.

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

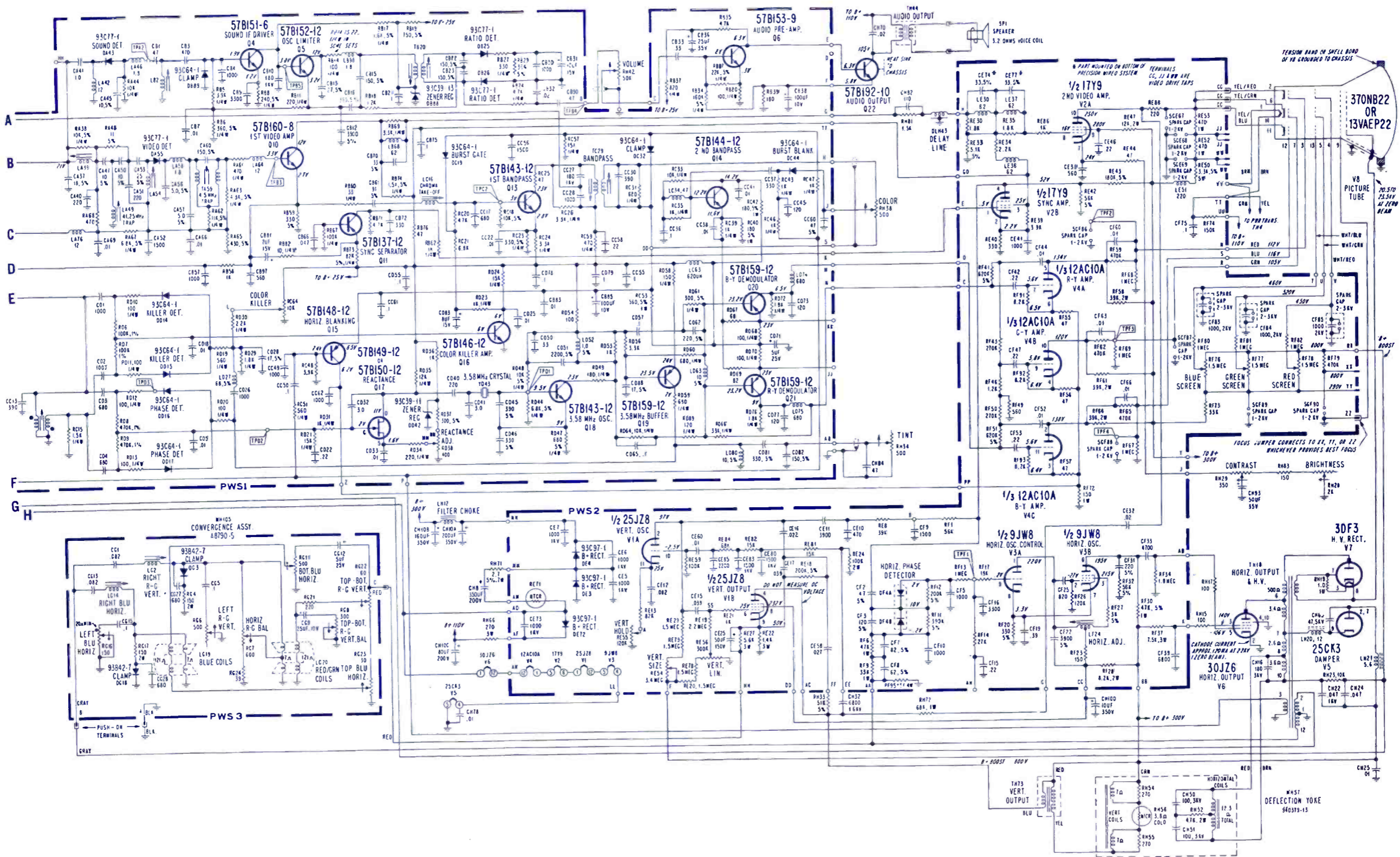
⊕ SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

⊕ HEADINGS IDENTIFY WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOGRAPHS.

BOTTOM VIEWS OF TRANSISTORS



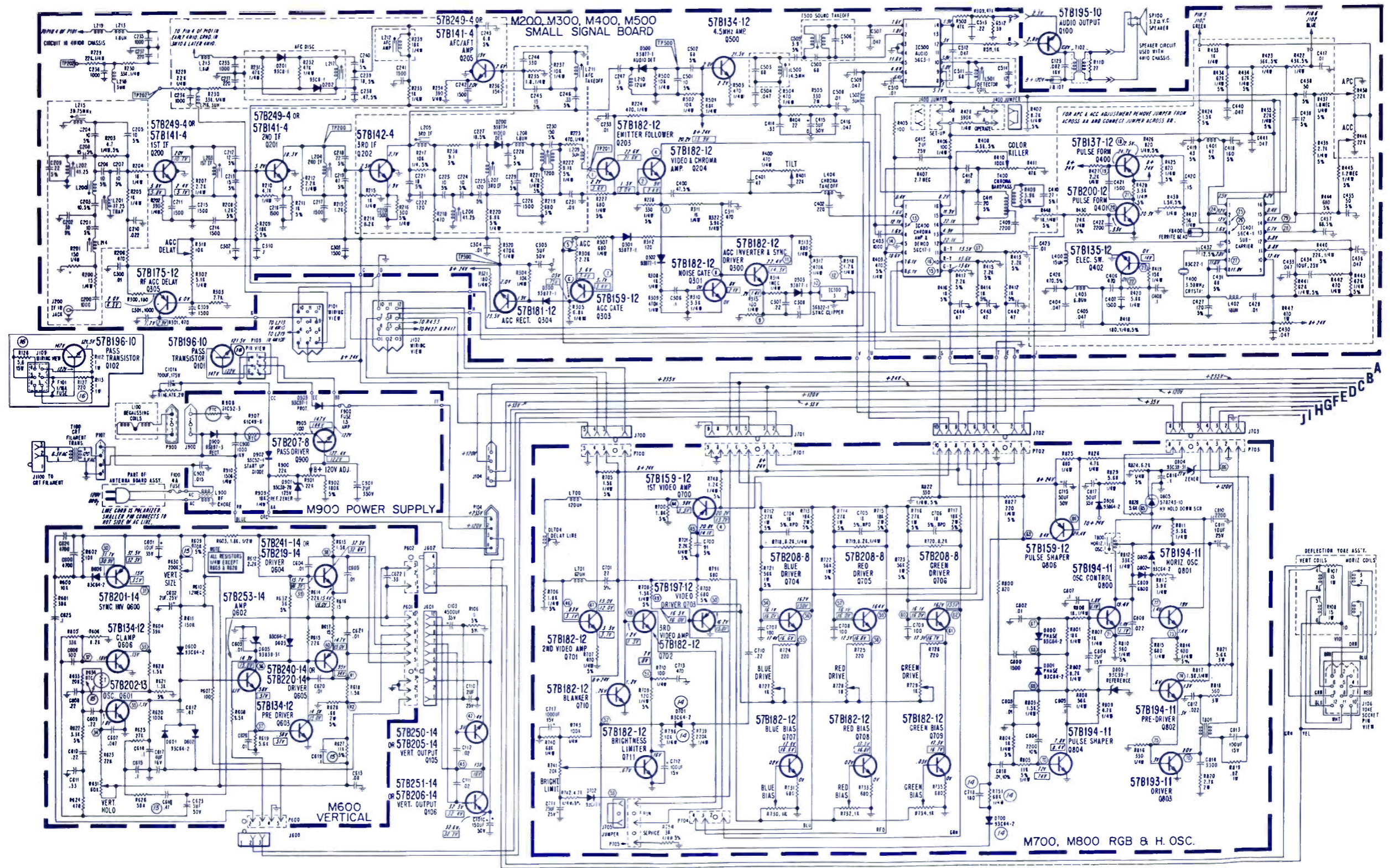
⊕ - GATE  
⊕ - SOURCE  
⊕ - DRAIN  
⊕ - ANODE  
⊕ - CATHODE  
⊕ - COLLECTOR  
⊕ - SHIELD CONNECTION  
⊕ - PIN  
⊕ - CASE  
⊕ - GATE



ADMIRAL  
Color TV Chassis  
T50K10-4B

**ADMIRAL**  
Color TV Chassis  
4M10

MODEL	FINISH	CRT	TUNER CLUSTER	VHF	UHF	CHASSIS
19C618	Walnut	19VEJTC02	NC2800-1	94A492-2	94A462-1	4M10
			NC2808-1	94A493-2	or	
			NC2809-1	94A507-2	94A466-1	



# CHASSIS LAYOUT

SYMBOL	DESCRIPTION	ADMIRAL PART NO.
F900	— fuse, 1.5 amp	84A4-7
	fuse clip 2 lead	84A33-1
F1000	— fuse, 1.5 amp	84A4-7
L900	— line choke	73A31-23
R153A,B	— 250K, dual tint control	75A195-21
R154A,B	— 5K, dual color control	75A195-20

R155A,B	— 10K, dual brite control	75A195-17
R156A,B	— 5K, dual contrast control	75A195-20
R630	— 200K, vert size	75A101-28
R631	— 60K, vert hold	75A191-2
R634	— thermistor	81A41-9
R741	— 20K, brite limit	75A101-47
R901	— 22K, B+ 120V, adj	75A199-3
T800	— coil osc adj	84A361-3

## 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.

PIN	TUBE	SIZE	PICTURE TUBE TYPE	USED IN CHASSIS
17V	17VAYTC02	3MIO		3M10C
19V	19VEJTC02	4MIO		4M10C
19V	19VEJTC02	4M10R		4M10CR

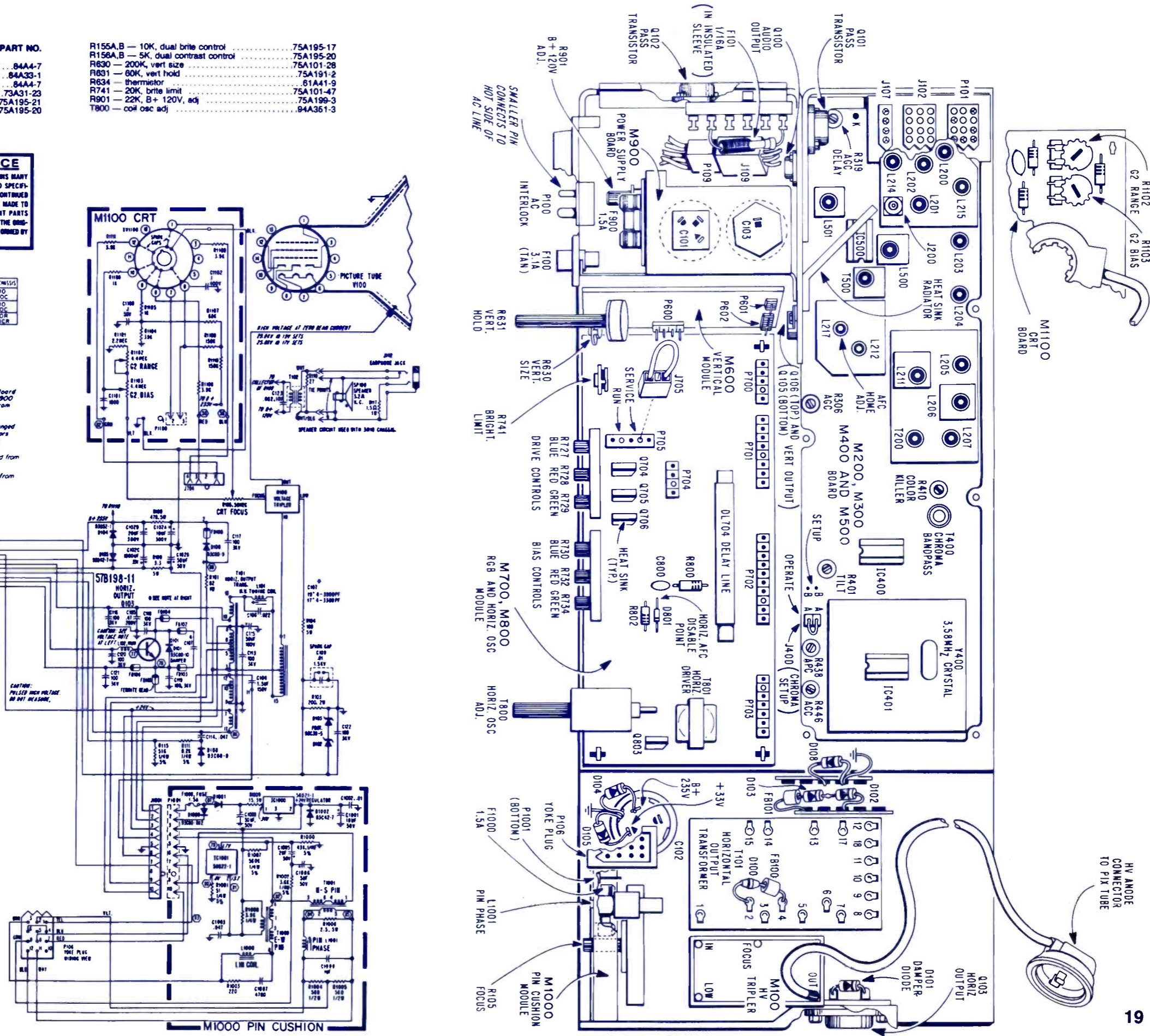
### RUN CHANGES

- (10) Start of 4MIO production.
- (11) Small signal Board changed from A8954-2 to -3. Start of 3MIO production.
- (12) M700, M800 RGB B.W. OSC. Board changed from A8951-3 to -5 and M900 Power Supply Board changed from A8953-2 to -3.
- (13) M1000 Pin Cushion Board changed from A8954-2 to -3. Connectors J1000 and P1000 were omitted. Start of 4M10R production.
- (14) M700, M800 Board changed from A8951-5 to -6.
- (15) M600 Vert. Board changed from A8952-2 to -4.
- (16) R126 and R127 added.

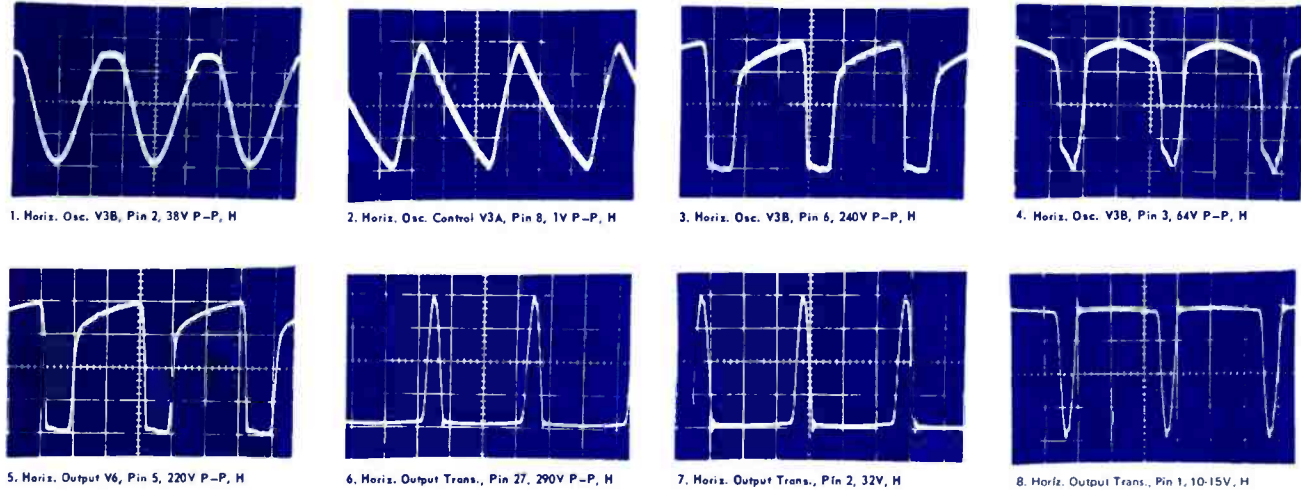
CAUTION: TO AVOID BURNING TO ICH000, DISCONNECT SOCKET J1001, WHEN SUPPLYING EXTERNAL TV SETTING ALIGNMENT OR SERVICE WITH SET TUNED TO TV.

NOTES:  
UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, UNLESS INDICATED BY OTHERWISE. CAPACITANCE VALUES ARE IN PF. CAPACITANCE VALUES LESS THAN 1000 ARE IN N. INDUCTIVE VALUES ARE IN MH.  
% INDICATES CHASSIS GROUND. OH INDICATES CIRCLES PER SECTION. OH INDICATES MEASURED WITH VTVM PLACED BETWEEN POINTS INDICATED. A CHASSIS GROUND, LINE VOLTAGE SET AT 120V AC. ALL CONTROLS SET FOR NORMAL PICTURE UNLESS OTHERWISE INDICATED. VOLTAGE MEASUREMENTS ARE TAKEN WITHOUT SIGNAL, WITH TUNER SET TO UNUSUAL CHANNEL. VOLTAGES SHOWN IN OHM ARE MEASURED WITH RECEIVER TUNED TO A COLOR SIGNAL.  
TRANSISTOR CAUTION: TO AVOID BURNING TO TRANSISTORS, DO NOT OPERATE CHASSIS WITH PICTURE TUBE AND DISCONNECTED FROM CHASSIS GROUND. DO NOT TUNE SET ON WITH TRANSISTOR(S), TUBES OR LEADS WAPPED OR SHORTED. DO NOT USE THE ADJUST LEAD TO CHASSIS GROUND. DISCONNECT THE ADJUST LEAD TO PICTURE TUBE OR ON BAG GROUND. USE CAUTION TO PREVENT ACCIDENTAL SHORTS BETWEEN COMPONENT TERMINALS ON TO CHASSIS GROUND. DO NOT APPLY EXCESSIVE HEAT TO TRANSISTOR LEADS. DO NOT USE AN IMPROPER DIAMETER FOR RESISTANCE MEASUREMENTS. USE RTVM ON B+ AND RANGE ON HIGHER POWER THAT THE NUMBER, AS WELL AS ALL LOWER B+ CHANGES.  
% SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.  
MEASUREMENTS SHOULD BE TAKEN WITH OBSERVATION LOCATIONS. CONDITIONS FOR TAKING MEASUREMENTS ARE GIVEN WITH DIMENSION NUMBERS.

ADMIRAL  
Color TV Chassis 4M10



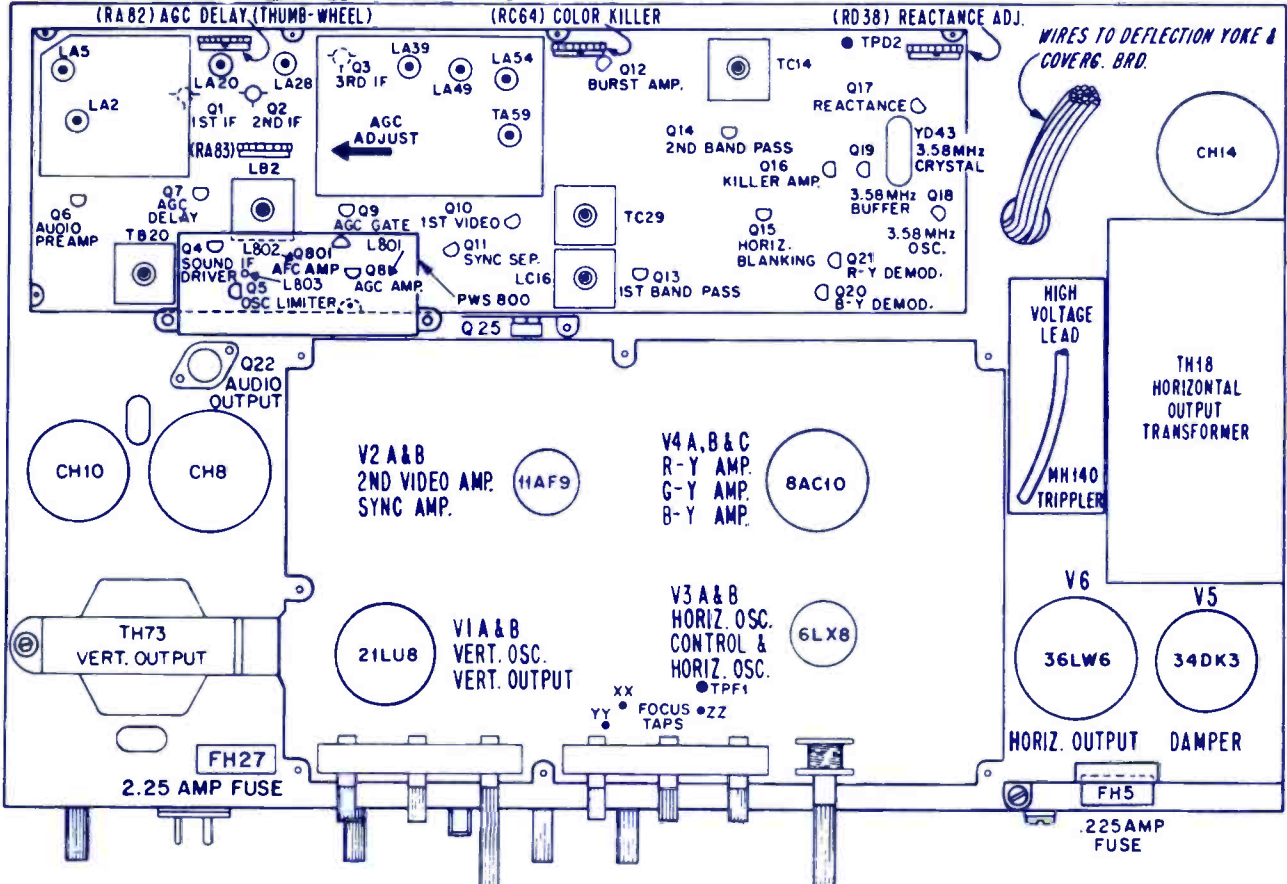
**ADMIRAL**  
Color TV Chassis  
T47K10-1A/-4A



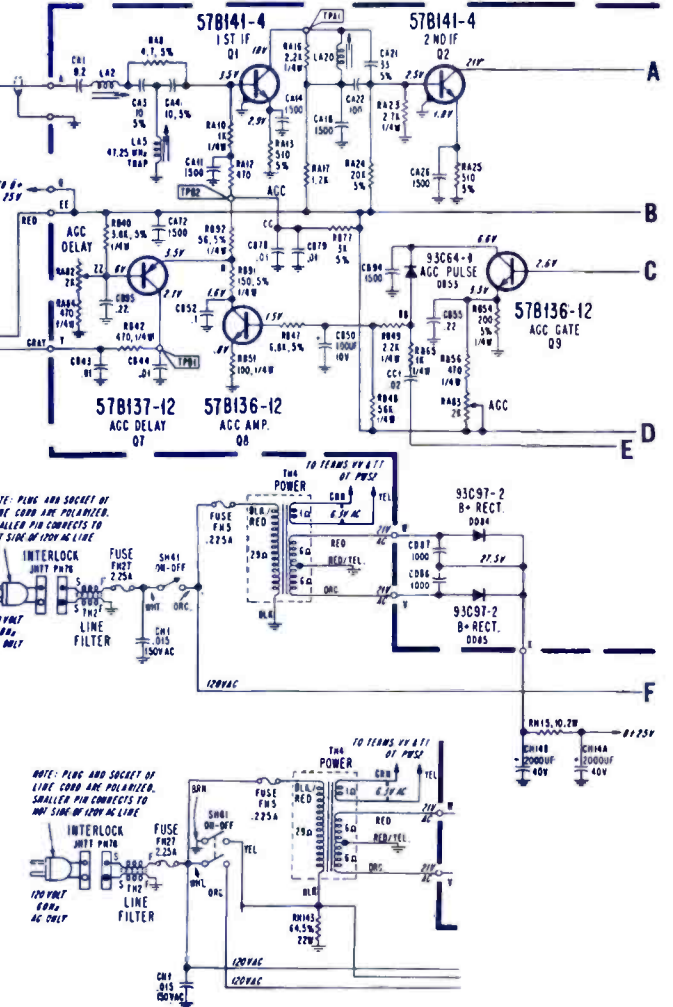
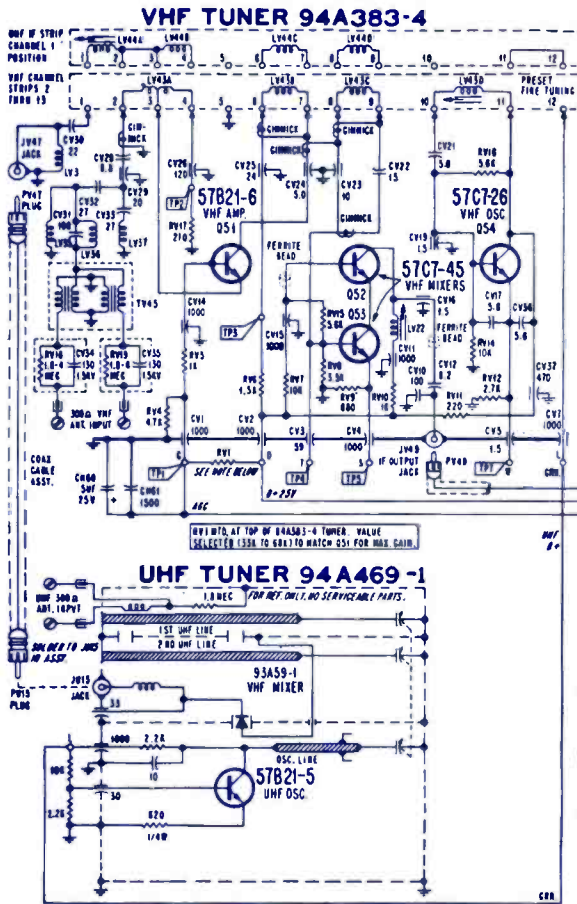
1. Horiz. Osc. V3B, Pin 2, 38V P-P, H  
2. Horiz. Osc. Control V3A, Pin 8, 1V P-P, H  
3. Horiz. Osc. V3B, Pin 6, 240V P-P, H  
4. Horiz. Osc. V3B, Pin 3, 64V P-P, H  
5. Horiz. Output V6, Pin 5, 220V P-P, H  
6. Horiz. Output Trans., Pin 27, 290V P-P, H  
7. Horiz. Output Trans., Pin 2, 32V, H  
8. Horiz. Output Trans., Pin 1, 10-15V, H

SYMBOL	DESCRIPTION	ADMIRAL PART NO.
RA82	— 2K AGC delay	75A101-3
RA83	— 2K AGC control	75A101-31
RC64	— 10K color kill control	75A101-18
RD38	— 400 ohm, react control	75A101-35
RE54	— vert size control, triple cont	75A95-18
RE55	— vert hold triple cont	75A95-18
RE56	— vert line cont, 300K triple cont	75A95-18
RF76	— blue screen triple cont	75A95-17
RF77	— green screen triple cont	75A95-17
RF78	— red screen	75A95-17
RH28	— control brite	75A198-4
RH29	— 350 ohm contrast control	75A198-3
RH34	— 500 ohm side tint control	75A198-2
RH39	— 500 ohm color control	75A198-2
RH42	— 50K vol on/off control T47K10-4A	75A140-31
RH42	— 50K vol on/off control T47K10-1A	75A140-30
RH149	— 30M focus control	75A108-8
RH150A, B	— bleeder focus control	61A71-1

CH10A	— 300mf, 350v electro	67A15-415
CH10B	— 300mf, 350v electro	67A15-415
CH10C	— 80mf, 350v electro	67A15-415
CH10D	— 10mf, 350v electro	67A15-415
CH14A, B	— 2000mf, 40v electro	67A15-413
DLH43	— delay line	72A217-3
LC16	— chroma input coil	72A329-1
LD74, 75	— 689µh, 3.58MHz SR trap	73A55-17
LF24	— horiz hold control	94A351-1
MH57	— deflect yoke	94A571-2
TB20	— ratio xformer	72A318-1
TC14	— burst xformer	72A325-3
TC29	— bandpass xformer	72A327-1
TH2	— line choke	73A31-16
TH4	— power xformer	80A108-14
TH18	— horiz output xformer	79A169-3
TH44	— audio output xformer	79A141-4
TH73	— vert output xformer	79A165-1
MH140	— tripler voltage tuner VHF	93A91-1
		94A383-4



**TOP ILLUSTRATION OF CHASSIS**



**T47K10-1A INSTANT ON CKT**

NOTES: UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS, KW, /10WATT, CAPACITANCE VALUES IN MICROHES OR HICHER ARE IN PF. CAPACITANCE VALUES LESS THAN 10 ARE IN PPF. INDUCTIVE VALUES ARE IN MH. #1 INDICATES CHASSIS GROUND, #2 INDICATES CYCLES PER SECOND. DC VOLTAGES ARE HEADERS WITH #10MM PLACED BETWEEN POINTS INDICATED A CHASSIS GROUND, LINE VOLTAGE SET AT 120V AC AT 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 1 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 OR DAMAGE TO TEST EQUIPMENT.

TRANSISTOR CAUTION: DO NOT EXPOSE TO TRANSISTORS; DO NOT OPERATE CHASSIS WITH PICTURE TUBE DISCONNECTED FROM CHASSIS GROUND; DO NOT TOUCH SET OR WITH TRANSISTORS; DO NOT TOUCH OR LEADS, READER OR UNDISCONNECTED; DO NOT USE 2ND AUDIO LEAD TO CHASSIS GROUND; DISCONNECT 2ND AUDIO ONLY TO PICTURE LINE ON SAC 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 HAMMETER FOR RESISTANCE MEASUREMENT; USE #10MM OR #10MM RANGE OR HIGHER.

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

(M) SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

(R) SYMBOLS IDENTIFY WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOGRAPHS.

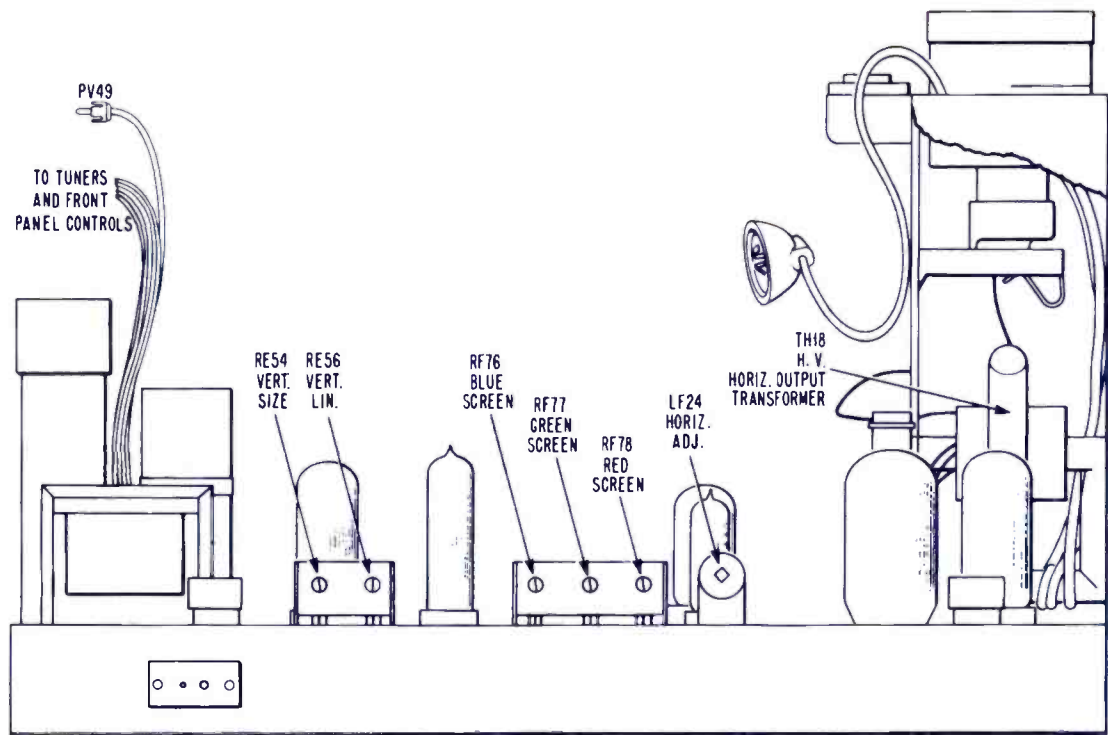
RUN CHANGES:

(10) START OF PRODUCTION

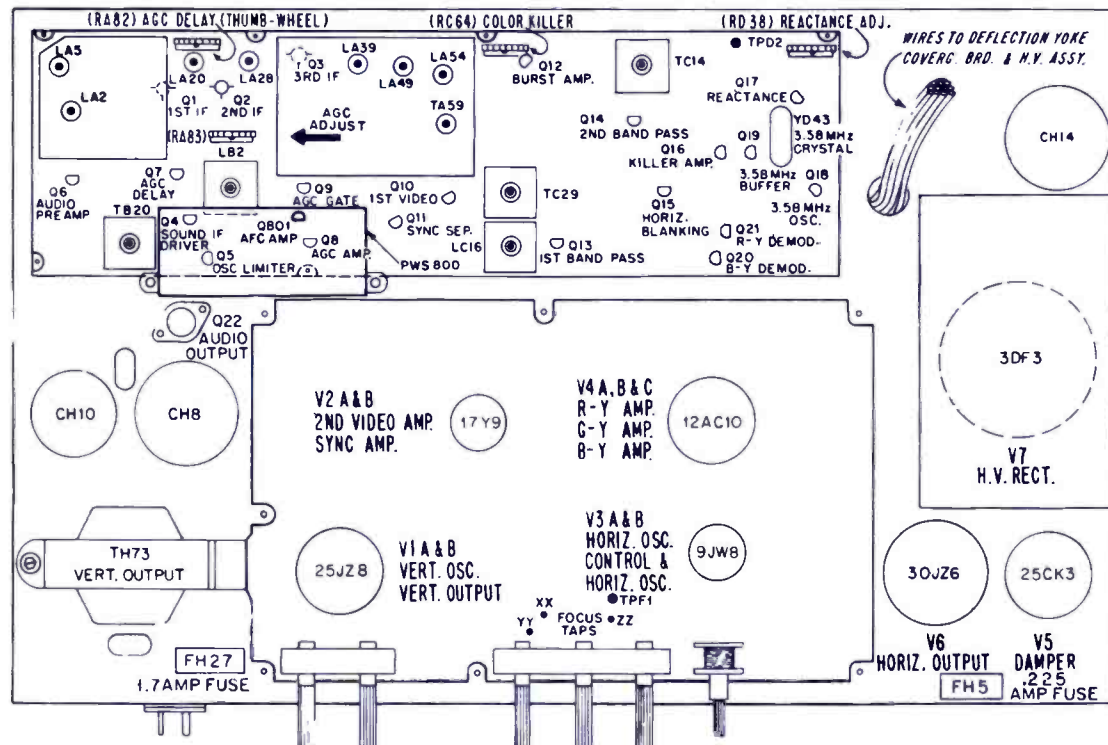


# ADMIRAL

Color TV Chassis  
T52K10

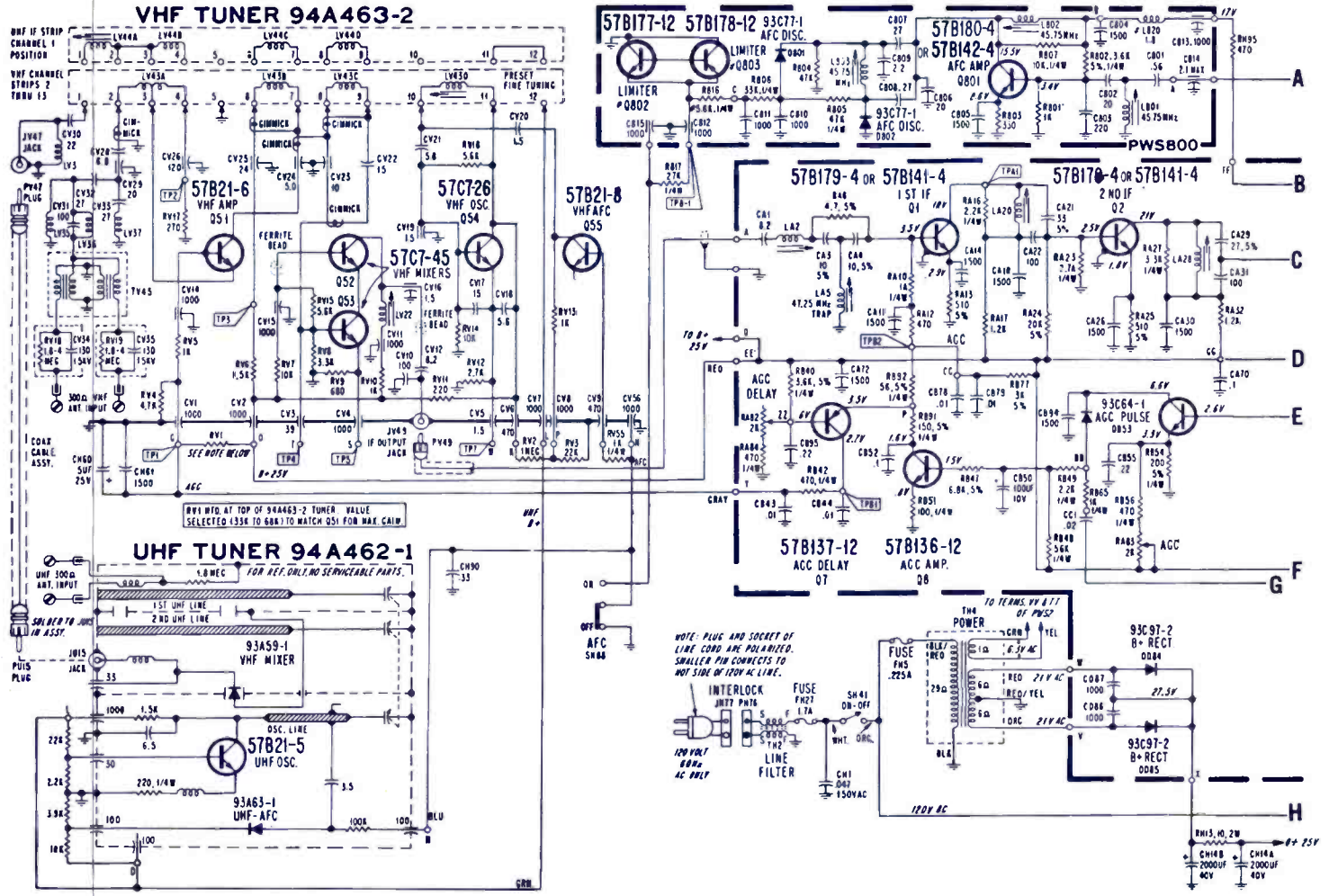


**BACK DRAWING OF CHASSIS**



**TOP DRAWING OF CHASSIS**

MODEL CHART					
MODEL	FINISH	CRT	VHF	UHF	CHASSIS
6267P	Walnut	16VAUP22 or 16VAXP22	94A463-2 or 94A392-1	94A462-1 or 94A466-1	T52K10-1A



**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.

**NOTES:** UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, 10%, 1/2 WATT; CAPACITANCE VALUES 1 OHM OR HIGHER ARE IN PF; CAPACITANCE VALUES LESS THAN 1 ARE IN UF; INDUCTANCE VALUES ARE IN MH. \* INDICATES CHASSIS GROUND, # INDICATES CYCLES PER SECOND. DC VOLTAGES ARE MEASURED WITH VTRM 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 UN-USED 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 GND 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 CHARACTER FOR RESISTANCE MEASUREMENT. USE VTRM OR R1000 RANGE OF WIGHER.

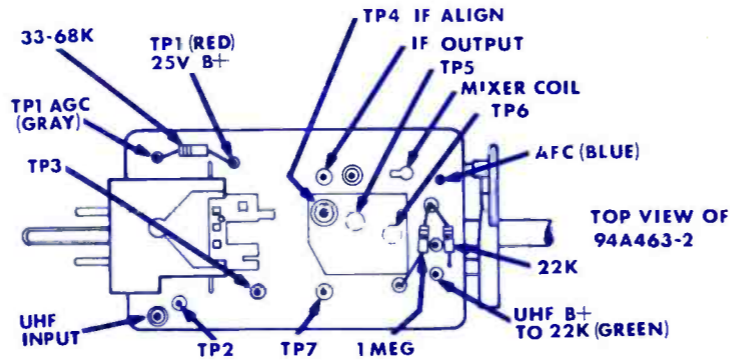
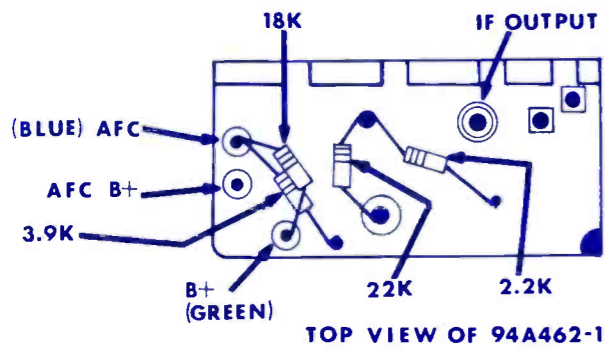
⑩ RUN NUMBER INDICATES CHANGE(S) INCORPORATED AS GIVEN UNDER THAT RUN NUMBER, AS WELL AS ALL LOWER RUN CHANGES.

◻ SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

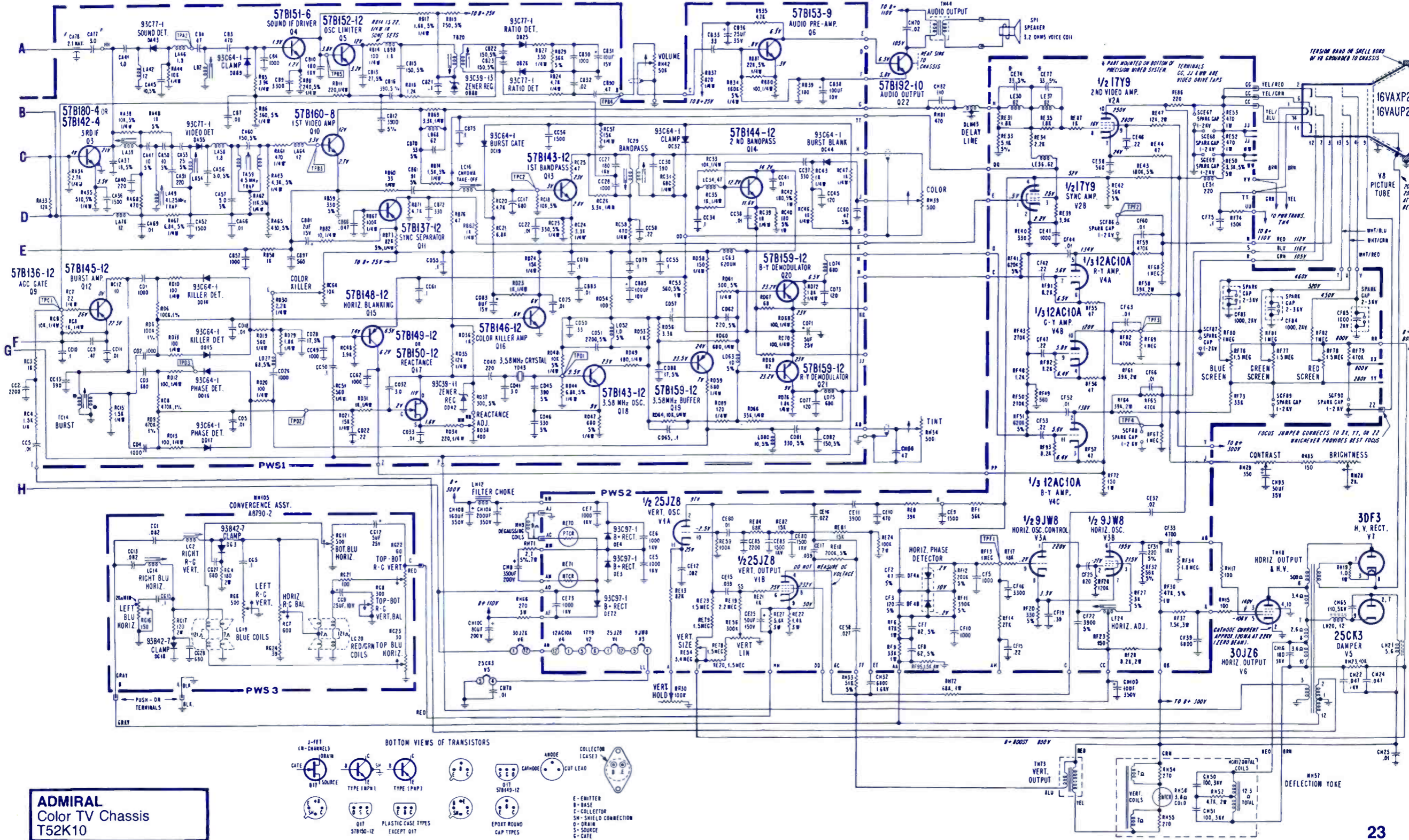
⊠ HEXAGONS INDICATE WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOGRAPHS. EQUIPMENT NOT MOUNTED ON PRECISION WIRED SYSTEM.

**RUN CHANGES**

⑩ Start of production



SYMBOL	DESCRIPTION	ADMIRAL PART NO.
CH10A, B, C, D	200m/350v, 160mf/350v, 80mf/200v, 10mf/350v, electrolytic	67A15-403
CH14A, B	2000mf/40v, 2000mf/40v electro	67A15-413
RA83	2K, AGC	75A101-31
RC64	10K, color kill	75A101-18
RE54	3.4M, vert size	75A107-4
RE56	300K, vert lin	
RH28	2K, brite	75A140-25
RH29	350 ohm, contrast	76A140-26
RH30	100K, vert hold	75A140-27
RH34	500 ohm, tint	75A206-6
RH39	500 ohm, color	75A206-6
RH42		
SH41	50K, vol w/on-off switch	75A206-5
LC16	coil, chroma take-off	72A329-1
LF24	coil, horiz adj	94A351-1
TA59	xformer, 4.5MHz trap	72A216-7
TB20	xformer, ratio detect	72A318-1
TC14	xformer, burst	72A325-3
TC29	xformer, bandpass	72A327-1
TH2	xformer, line choke	73A31-16
TH4	xformer, power	80A108-14
TH18	xformer, horiz output	79A158-3
TH44	xformer, audio output	79A141-4
TH73	xformer, vert output	79A166-1
FH5	fuse, .225a chemical	84A28-12
FH27	fuse, 1.7a chemical	84A28-6
	VHF tuner	94A463-2



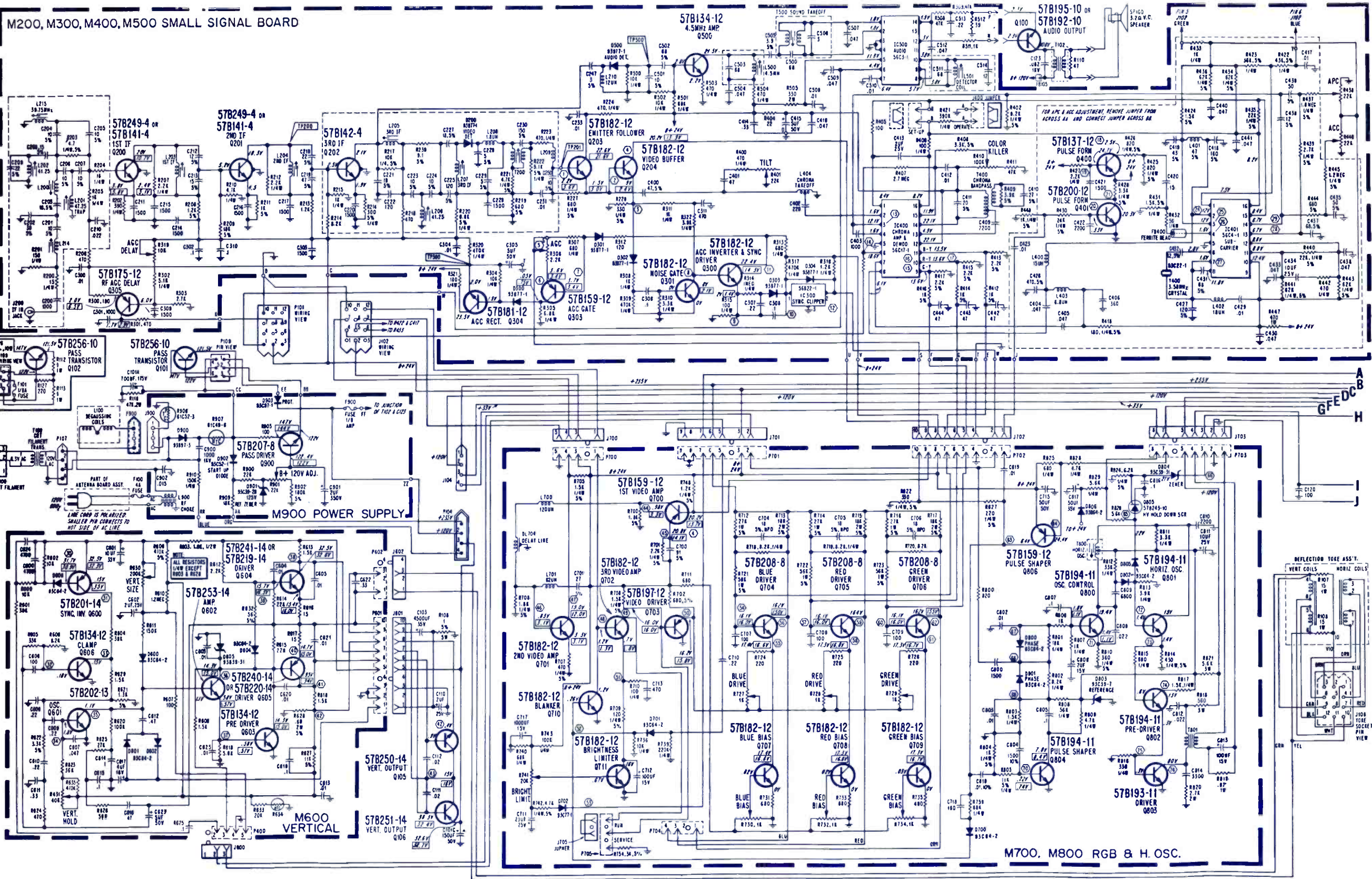


# ADMIRAL

Color TV  
Chassis  
2M10CA

OCTOBER • 1975

## M200, M300, M400, M500 SMALL SIGNAL BOARD



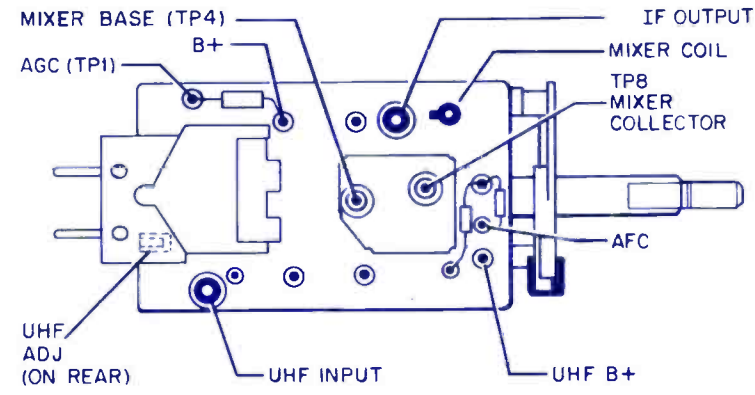
M700, M800 RGB & H. OSC.



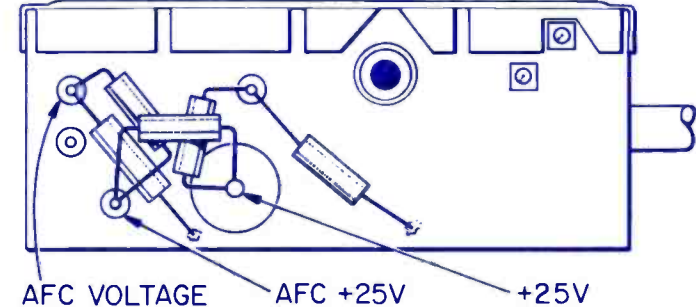


MODEL	FINISH	PICTURE TUBE	CHASSIS	REAR PANEL	IF TRANSFORMER	PICTURE TUBE
17C638	Walnut	17VAYTC02	NC2821-2	94A492-2	94A518-2 or 94A519-2	3M10C
19C657	White	19VEJTC02	NC2822-1	94A492-4	94A509-3 or 94A515-3	4M10C
19C658C	Walnut	19VEJTC02	NC2810-1	94A492-4	94A509-2 or 94A515-2	4M10C

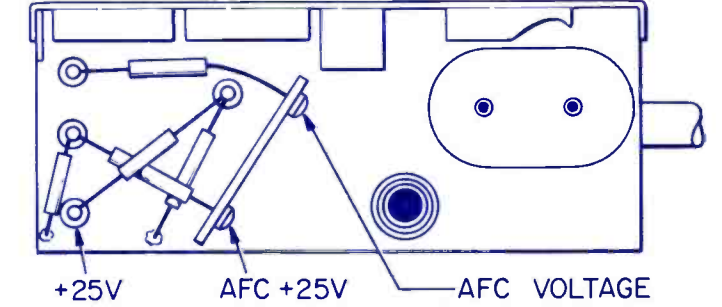
### TUNER TOP VIEWS



94A492

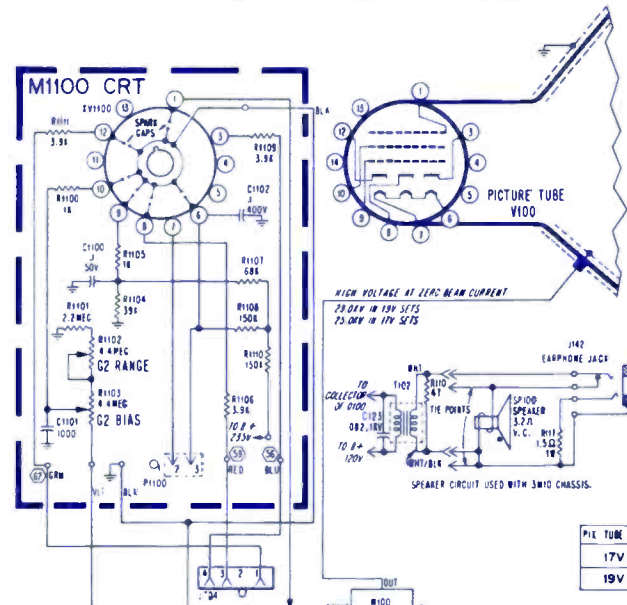


94A509  
94A518



94A515  
94A519

SYMBOL	DESCRIPTION	ADMIRAL PART NO.
F100	—fuse, 4.0a pigtail	84A7-25
F101	—fuse, 1/16a pigtail	84A7-20
R634	—thermistor, NTC	93A96-3
R634	—thermistor, NTC	61A41-9
R630	—200K, vert size	75A101-28
R631	—60K, vert hold	75A191-2
R727, 728, 729	—1K, blue, red, green drive	75A201-1
R730, 732, 734	—1K, blue, red, green bias	75A201-1
R741	—20K, brite, limit	75A101-47
L704	—delay line	72A418-1
T801	—driver xformer, horiz	79A167-2
R907	—thermistor, NTC	61A49-6
R908	—thermistor, PTC	61A52-3
R901	—22K, B+ 120v, adj	75A199-3
84A4-7	—fuse, 1.5a	84A4-7



PIX. TUBE SIZE	PICTURE TUBE TYPE	USED IN CHASSIS
17V	17VAYTC02	3M10C
19V	19VEJTC02	4M10C

- #### RUN CHANGES
- Start of 4M10C production.
  - Small signal Board changed from AB950-2 to -3. Start of 3M10C production.
  - M700, M800 RGB & H. OSC Board changed from AB951-3 to -5. M900 Power Supply Board changed from AB953-2 to -3.
  - M1000 Pin Cushion Board changed from AB954-2 to -3. Connectors J1000 & J1000 were omitted. Start of 4M10C production.
  - M700, M800 Board changed from AB951-5 to -6.
  - M600 Vert. Board changed from AB952-2 to -4.
  - R126 and R127 added.
  - Start of 3M10C and 4M10C production.

CAUTION: TO AVOID DAMAGE TO TUBE, DISCONNECT SOCKET J1001 WHEN APPLYING EXTERNAL 24V DURING ALIGNMENT OR SERVICING WITH SET TUNED UP.

NOTES: UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, 10K, 100K, 1M, 10M, 100M, 1G. CAPACITANCE VALUES 1 OR HIGHER ARE IN PF. CAPACITANCE VALUES LESS THAN 100 ARE IN UF. INDUCTANCE VALUES ARE IN MH. — INDICATES CHASSIS GROUND. — INDICATES CYCLES PER SECOND. DC VOLTAGES ARE MEASURED WITH HV PLACED BETWEEN POINTS INDICATED & CHASSIS GROUND. LINE VOLTAGE SET AT 120VAC & ALL CONTROLS SET FOR NORMAL PICTURE UNLESS OTHERWISE INDICATED. VOLTAGE READINGS ARE TAKEN WITHOUT SIGNAL, WITH TUNER SET TO UNLINED CHANNEL. VOLTAGES SHOWN IN BOX ARE MEASURED WITH RECEIVER TUNED TO A COLOR SIGNAL.

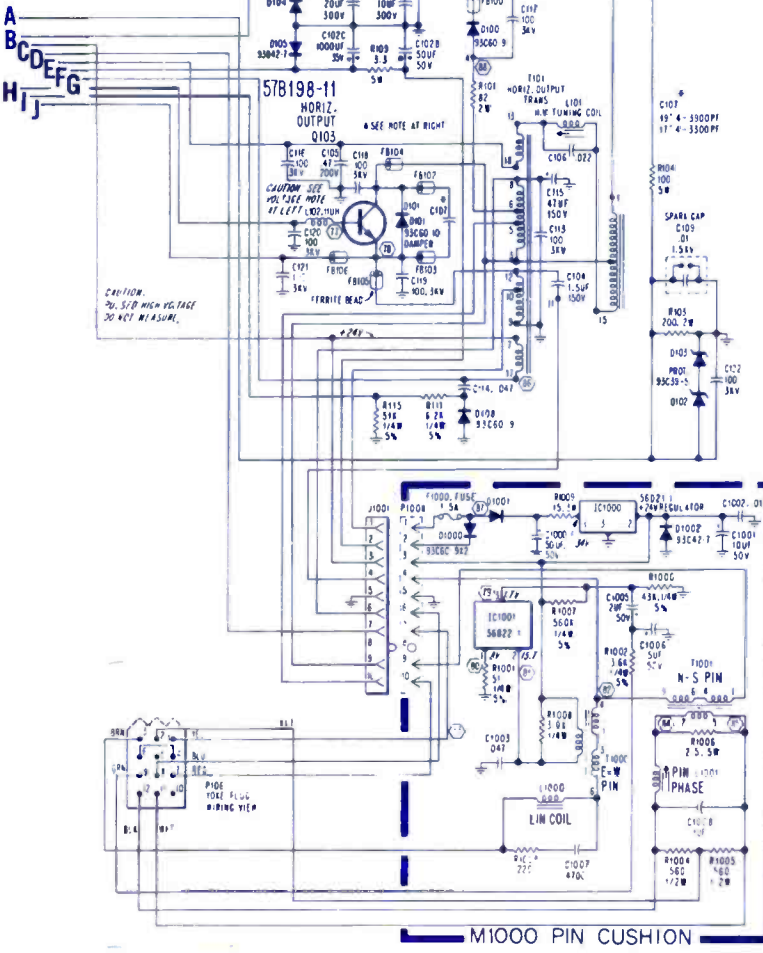
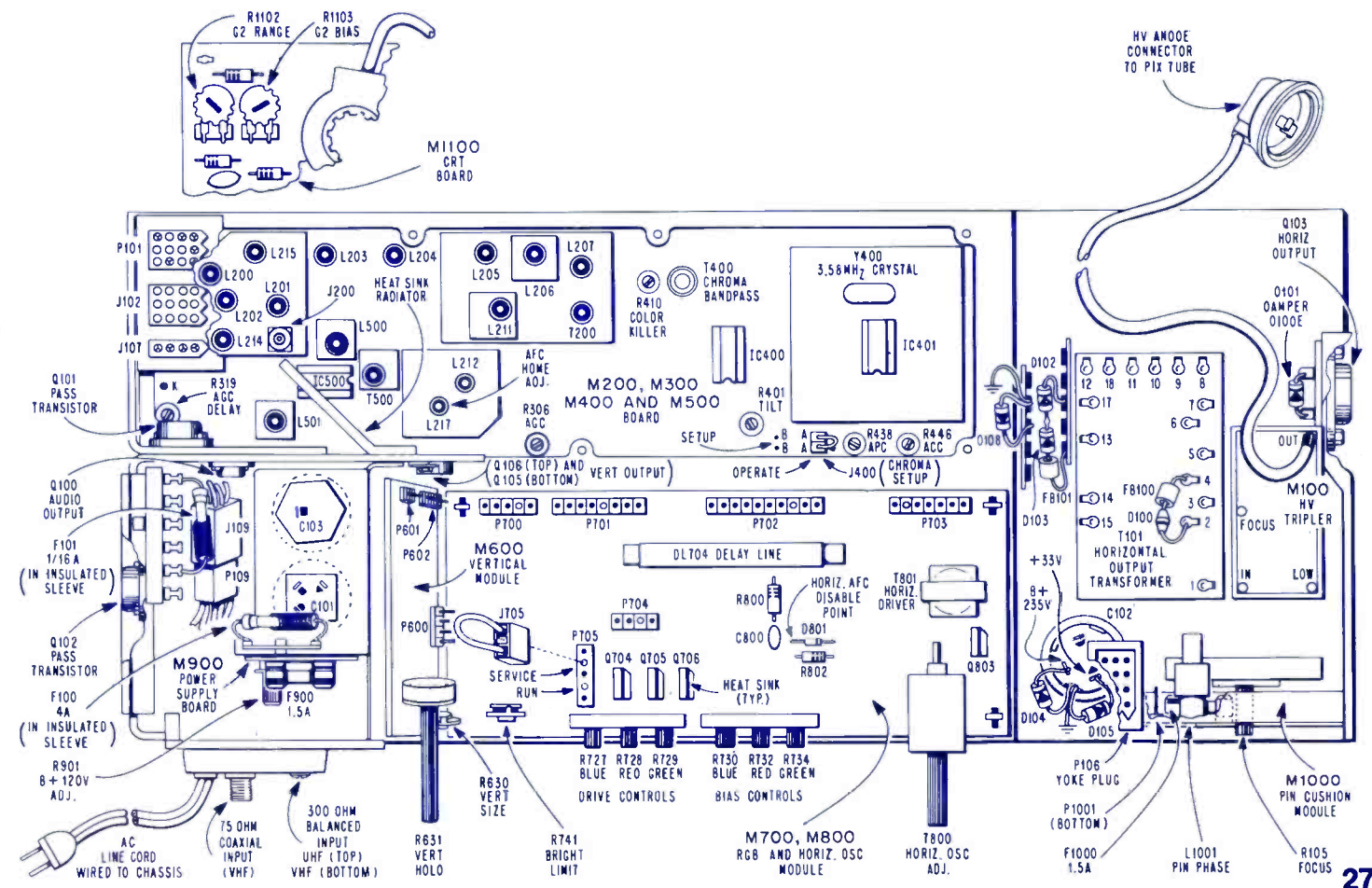
TRANSISTOR CAUTION: TO AVOID DAMAGE TO TRANSISTORS, DO NOT OPERATE CHASSIS WITH PICTURE TUBE DISCONNECTED FROM CHASSIS GROUND. DO NOT TURN SET ON WITH TRANSISTORS, TUBES OR LEADS REMOVED OR UNSOLDERED. DO NOT ARC AND WELD LEAD TO CHASSIS GROUND. DISCHARGE TWO ANGLE ONLY TO PICTURE TUBE. SAC OF SAC GROUND. 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 DIMETER FOR RESISTANCE MEASUREMENT. USE VTM ON R-100 RANGE OR HIGHER.

— PIN NUMBER INDICATES BOARD(S) INCORPORATED AS SHOWN. NUMBER UNDER THAT RUN NUMBER IS WELL AS ALL LOWER RUN CHANGES.

— SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

— MEASUREMENTS INDICATED WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOS.

**SAFETY NOTICE**  
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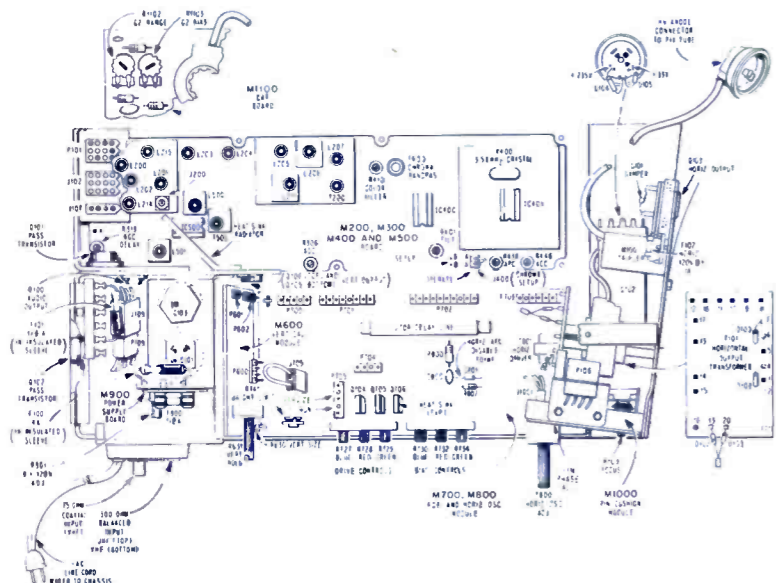
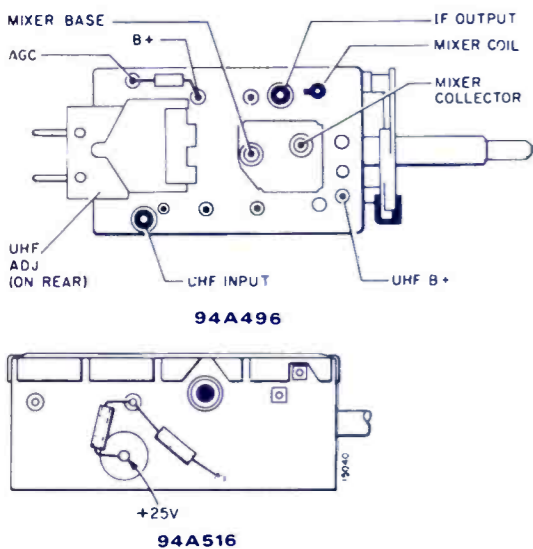
**ADMIRAL**  
Color TV  
Chassis M10C

# ADMIRAL

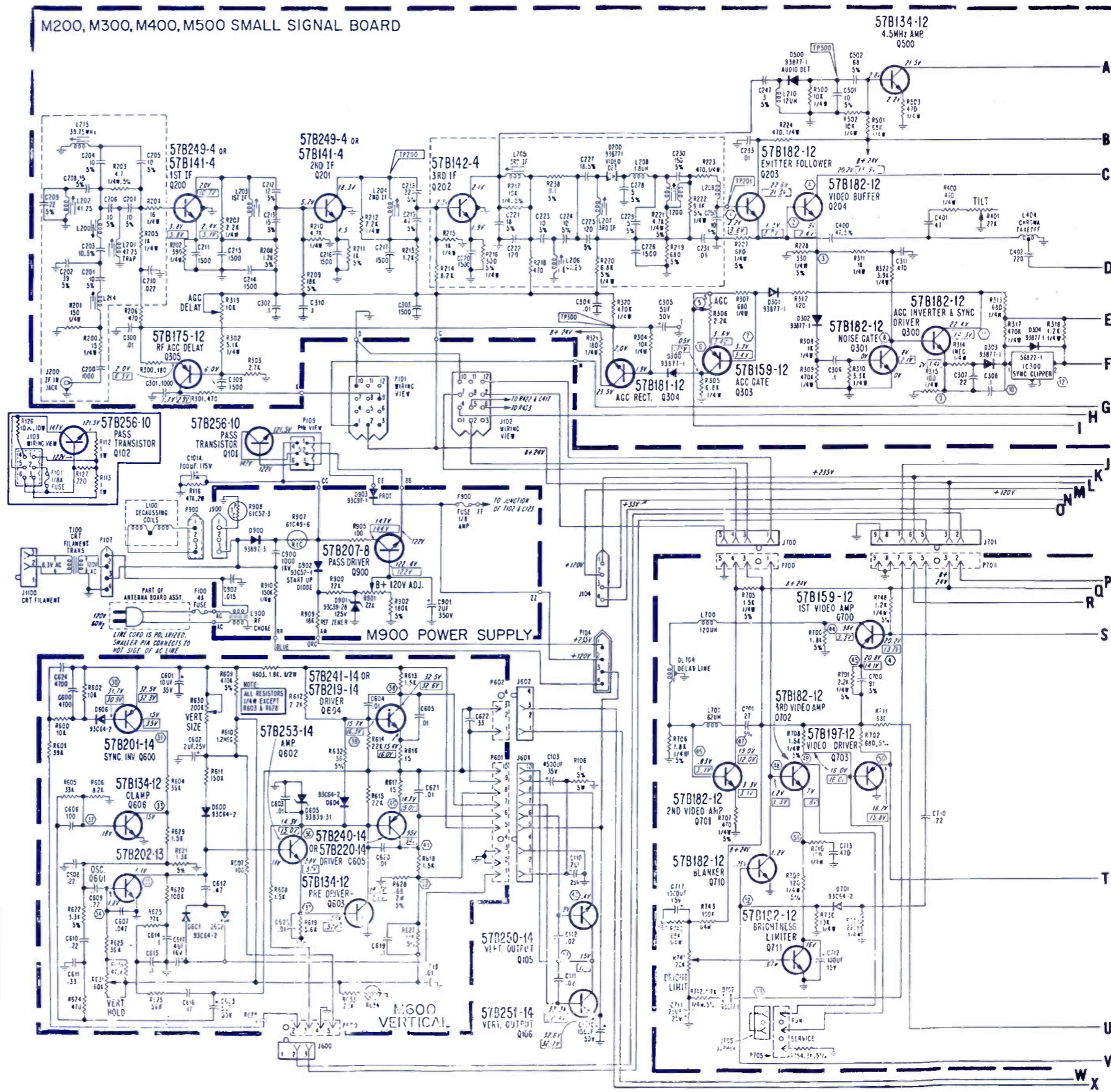
Color TV Chassis  
2M10CA

SYMBOL	DESCRIPTION	ADMIRAL PART NO.
M100	voltage trip	93A99-3
C101A, B		
C	700mfd/175v, 500 mfd/125v 150mfd/50v, electro	67A14-428
C102A-D	10mfd/300v, 50mfd/50v, 1000mfd/85v 20mfd/300v, electro	67A15-422
R105	50M, focus	75A200-1
T100	xformer, CRT fila	80A119-3
T101	xformer, horiz output	79A189-1
T102	xformer, audio output	79A141-5
F100	fuse, 4.0a pigtail	84A7-25
F101	fuse, 1/8a pigtail	84A7-25
F102	fuse, 1.0a pigtail	84A7-5
R153	250K, tint control	75A118-78
R154	5K, color control	75A118-77
R155	5K, brite control	75A118-76
R156	5K, contrast control	75A118-77
R161	50K, on/off vol control	75A189-20
	VHF tuner	94A496-2
	UHF tuner	94A516-1
R630	200K, vert size	75A101-28
R631	60K, vert hold	75A191-2
R741	20K, brite, limt	75A101-47
R901	22K, B+ 120v, adj	75A199-3

### TUNER TOP VIEWS

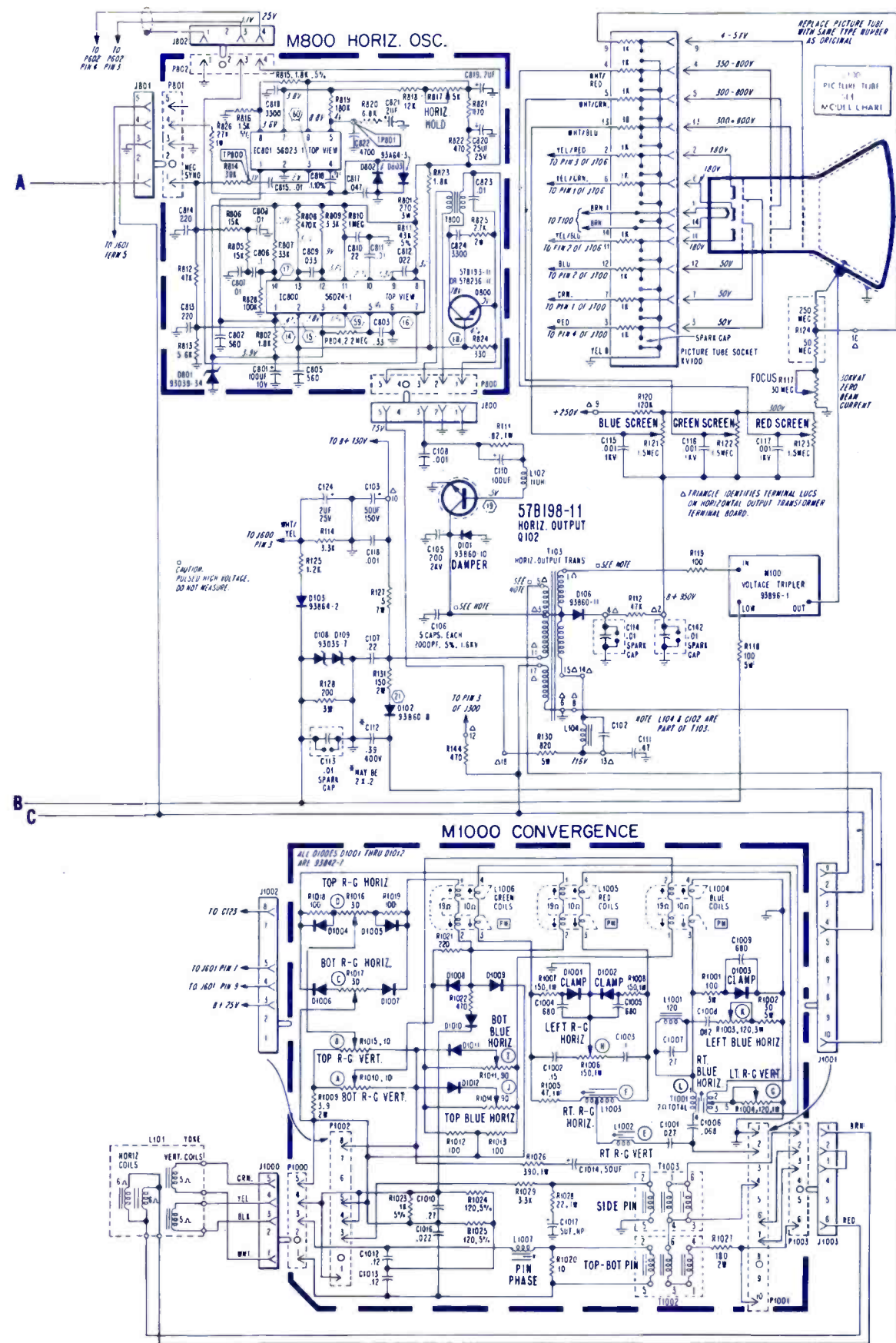


### M200, M300, M400, M500 SMALL SIGNAL BOARD

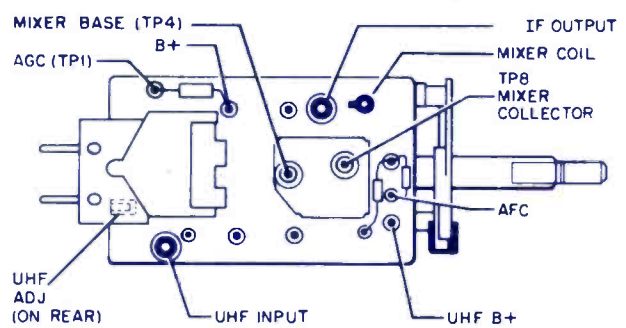




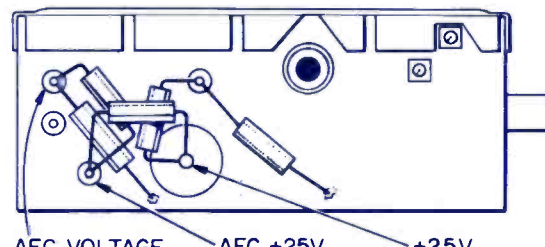




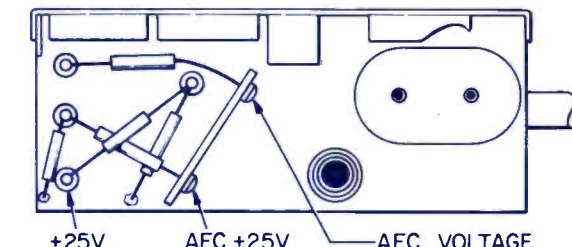
**TUNER TOP VIEWS**



Top View 94A492 VHF Tuner



Top View, UHF Tuner 94A509-2



Top View, UHF Tuner 94A515-2

SYMBOL	DESCRIPTION	ADMIRAL PART NO.
T500	xformer, 4.5MHz	72A318-6
1C500	integ circuit, sound IF and detect	56A3-1
R314	400 ohm, AGC adj	75A101-53
R331	10K, AGC delay	75A101-25
R719	200K, brite limiter	75A101-28
R733, 734		
735	3 section, 8K, red, blue & green drive	75A95-14
R817	5K, horiz hold	75A101-64
1C800	integ circuit, countdown	56A24-1
1C801	integ circuit, horiz osc & APC	56A23-1

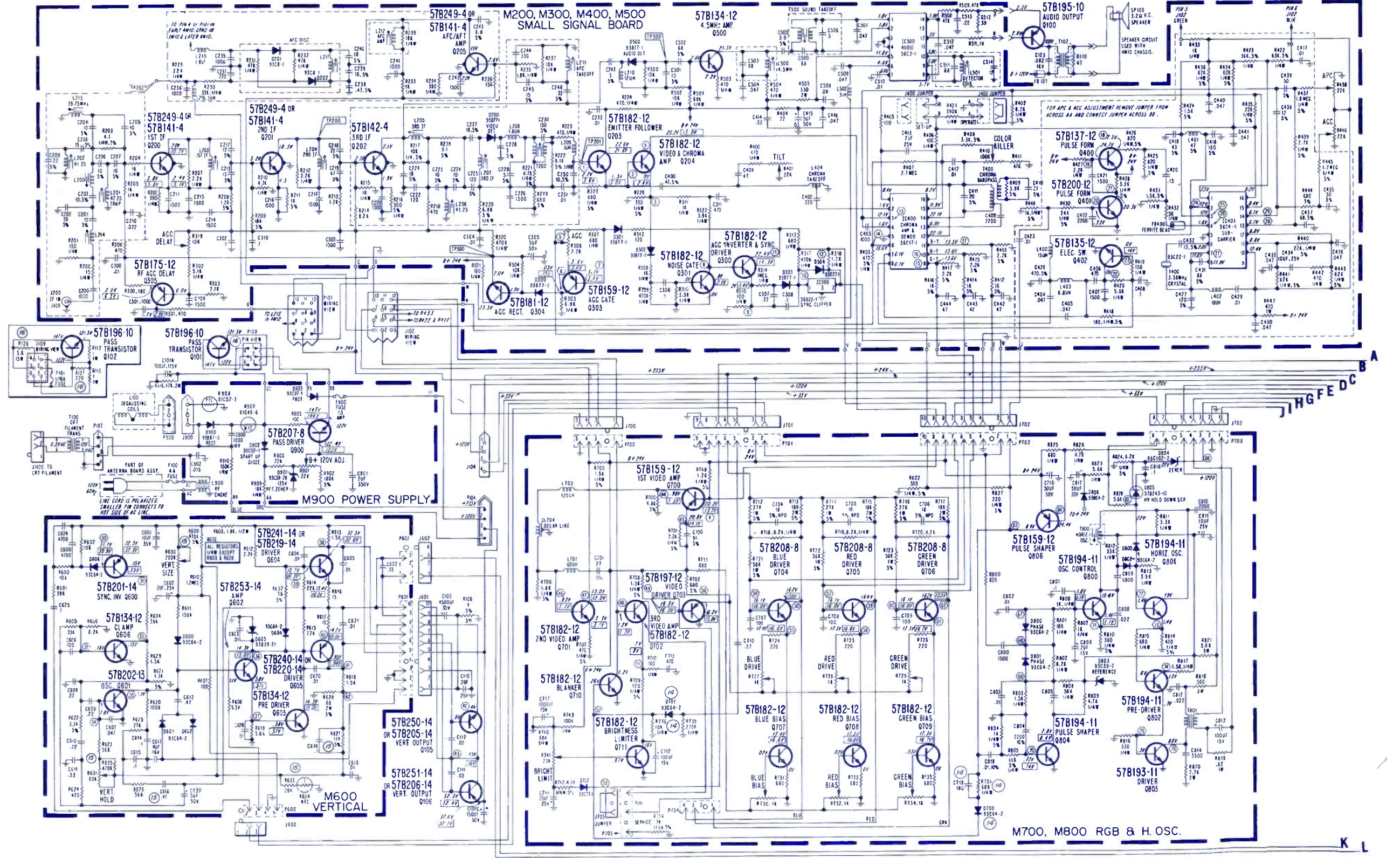
**MODEL CHART**

MODEL	FINISH	CRT	TUNER CLUSTER	VHF	UHF	CHASSIS	CURRENT
SK25C671	Walnut	25VCZP22 or 25VCNP22	NC2810-5	94A492-4	94A509-2 or 94A515-2	1M30B	1.8 Amp @ 120V
SK25C673	Oak	25VCZP22 or 25VCNP22	NC2810-5	94A492-4	94A509-2 or 94A515-2	1M30B	1.8 Amp @ 120V
SK25C676	Pine	25VCZP22 or 25VCNP22	NC2810-5	94A492-4	94A509-2 or 94A515-2	1M30B	1.8 Amp @ 120V
23C668	Pecan	23VCEP22	NC2824-1	94A492-4	94A509-2 or 94A515-2	1M30B	1.8 Amp @ 120V

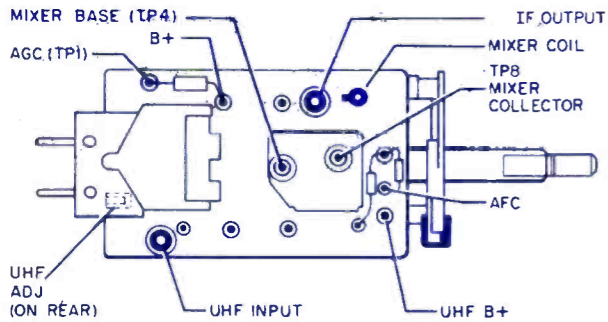
**ADMIRAL**  
Color TV Chassis  
1M30B



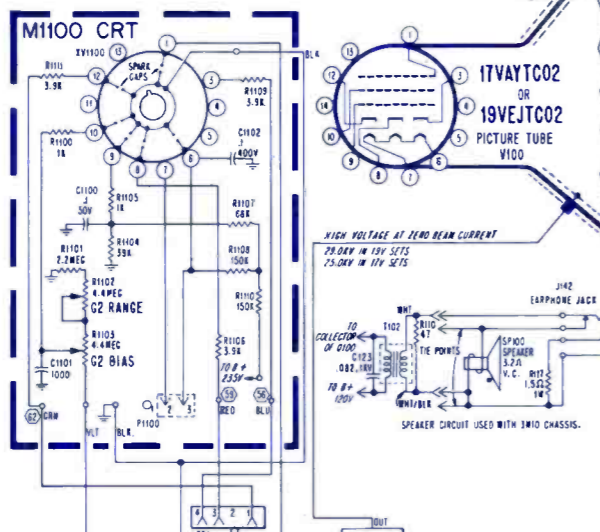
**ADMIRAL**  
Color TV Chassis  
4M10C/H



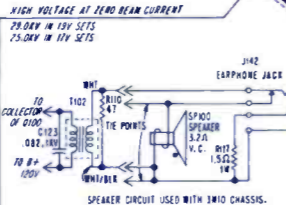
**TUNER TOP VIEWS**



**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.



- RUN CHANGES**
- 10 Start of 4M10 production.
  - 11 Small signal Board changed from AB950-2 to -3. Start of 3M10 production.
  - 12 M700, M800 R.G.B. & H.O.S.C. Board changed from AB951-3 to -5. M900 Power Supply Board changed from AB953-2 to -3.
  - 13 M1000 Pin Cushion Board changed from AB954-2 to -3. Connectors J1000 & P1000 were omitted. Start of 4M10R production.
  - 14 M700, M800 Board changed from AB951-5 to -6.
  - 15 M600 Vert. Board changed from AB952-2 to -4.
  - 16 R126 and R127 added.
  - 17 Start of 3M10C and 4M10C production.
  - 18 M1000 Pin Cushion Board changed from AB954-3 to -6.

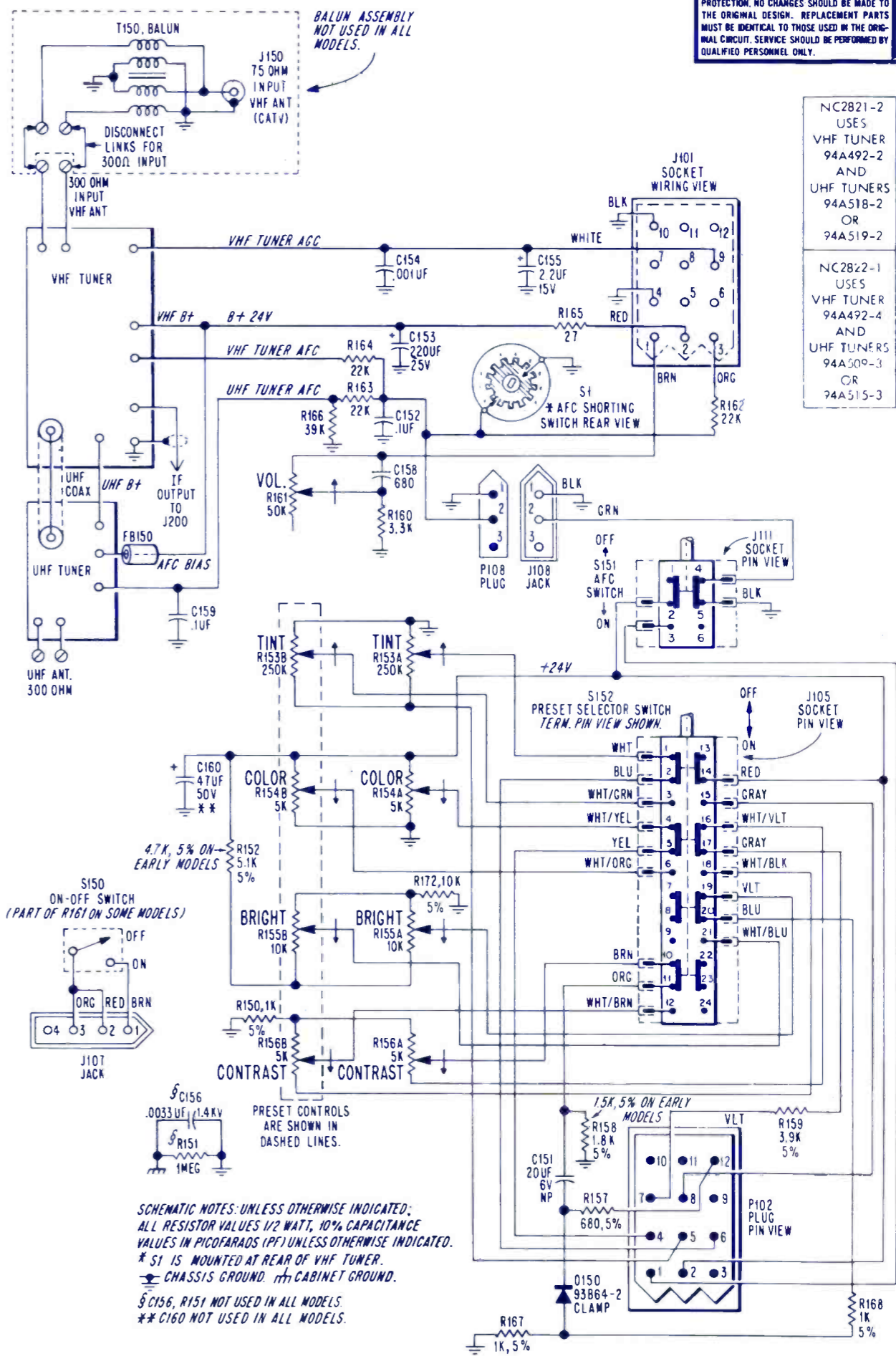
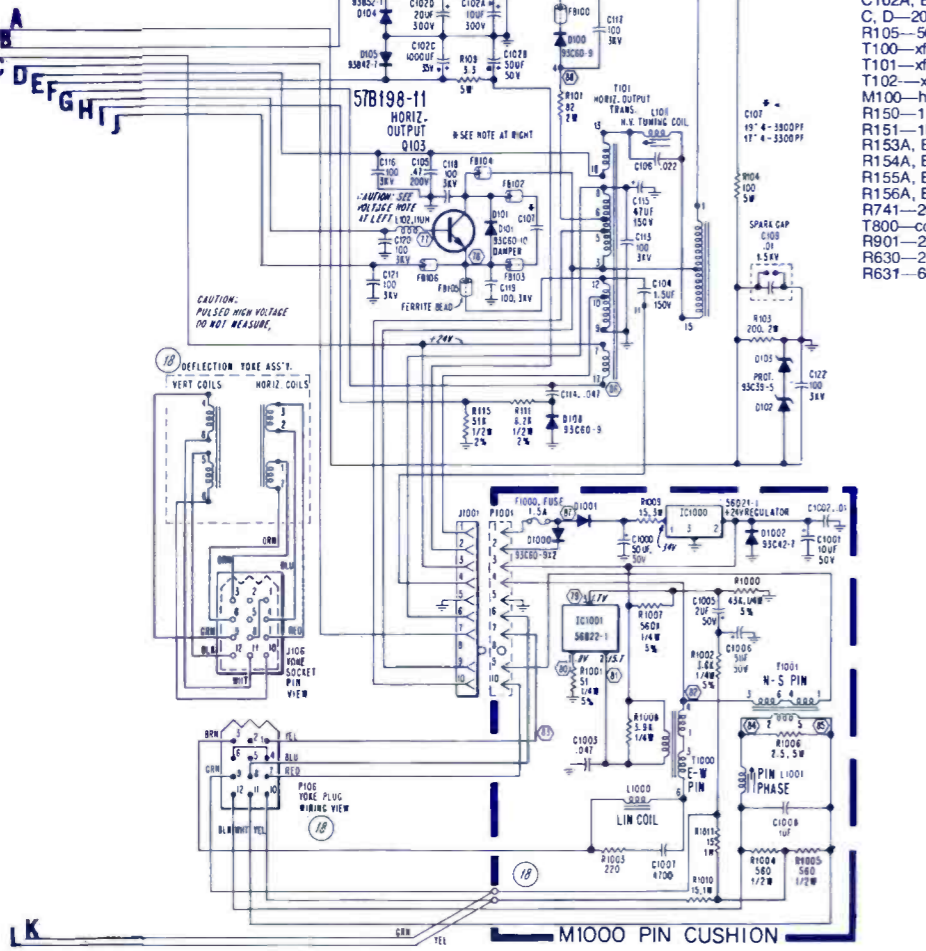


SYMBOL	DESCRIPTION	ADMIRAL PART NO.
C102A, B	—10µf/300v, 50µf/50v, 1000µf/85v	
C, D	—20µf/300v electrolytic	67A15-422
R105	—50M, focus	75A200-1
T100	—xformer CRT fila	80A119-3
T101	—xformer, horiz output	79A187-1
T102	—xformer, audio output	79A141-5
M100	—high voltage, tripler	93A96-3
R150	—1K, 5%, 1/2w	60A105-102
R151	—1M, 10%, 1/2w	60A106-105
R153A, B	—250K, dual tint control	75A195-21
R154A, B	—5K, dual color control	75A195-20
R155A, B	—10K, dual brite control	75A195-17
R156A, B	—5K, dual contrast control	75A195-20
R741	—20K, brite limit	75A101-47
T800	—coil osc adj	94A351-3
R901	—22K, B+ 120v, adj	75A199-3
R630	—200K, vert size	75A101-28
R631	—60K, vert hold	75A191-2

CAUTION: TO AVOID DAMAGE TO IC1000, DISCONNECT SOCKET J1001 WHEN APPLYING EXTERNAL P.V. DURING ALIGNMENT OR SERVICING WITH SET TUNED OFF.

**NOTES:**  
 UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, 10%, 1/2 WATT. CAPACITANCE VALUES OF HIGHER ARE IN PF. CAPACITANCE VALUES LESS THAN 1 ARE IN UF. RESISTANCE VALUES ARE IN OHMS.  
 ⊕ INDICATES CHASSIS GROUND. ⊕ INDICATES CIRCLES PER SECOND.  
 DC VOLTAGES ARE MEASURED WITH METER PLACED BETWEEN POINTS INDICATED IN CHASSIS GROUND. LINE VOLTAGE SET AT 100V AC & ALL CONTROLS SET FOR NORMAL PICTURE UNLESS OTHERWISE INDICATED. VOLTAGE READINGS ARE TAKEN WITHOUT SIGNAL, WITH TUNER SET TO UNUSED CHANNEL. VOLTAGES SHOWN IN BOXES ARE MEASURED WITH RECEIVER TUNED TO A COLOR SIGNAL.  
 TRANSISTOR CAUTION:  
 TO AVOID DAMAGE TO TRANSISTORS, DO NOT OPERATE CHASSIS WITH PICTURE TUBE DAE DISCONNECTED FROM CHASSIS GROUND. DO NOT TURN SET ON WITH TRANSISTORS(T1001) TUBES(OH LEADS REMOVED OR DISCONNECTED. DO NOT ARC AND AVOID LEAD TO CHASSIS GROUND. DISCHARGE AND AVOID ONLY TO PICTURE TUBE DAE OR DAE 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 UNIDENTIFIED SOLDER FOR REPAIRS. REPAIRS SHOULD BE MADE WITH 45W IN 45MIN RANGING IN HEIGHT.  
 RUN NUMBER INDICATES CHANGES INCORPORATED AS GIVEN UNDER THAT RUN NUMBER, AS WELL AS ALL LOWER RUN CHANGES.  
 (TF) SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.  
 HEADERS IDENTIFY WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOS.

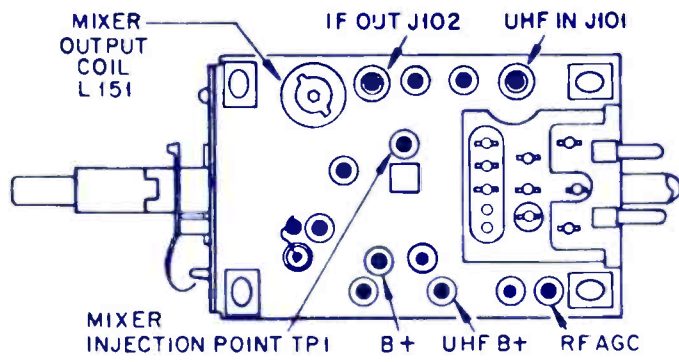
**ADMIRAL Color TV Chassis 4M10C/H**



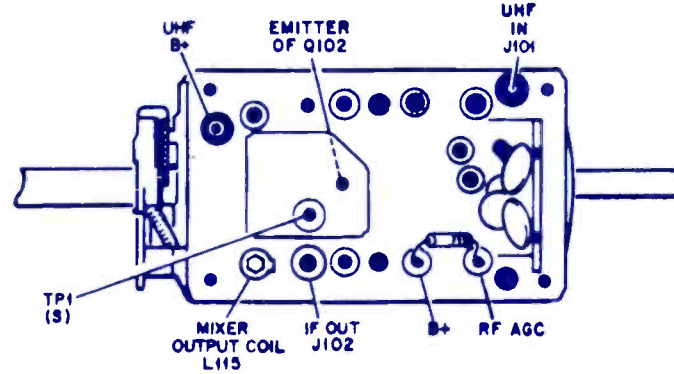
**SCHEMATIC NOTES:** UNLESS OTHERWISE INDICATED, ALL RESISTOR VALUES 1/2 WATT, 10% CAPACITANCE VALUES IN PICOFARADS (PF) UNLESS OTHERWISE INDICATED.  
 \* S1 IS MOUNTED AT REAR OF VHF TUNER.  
 ⊕ CHASSIS GROUND. ⊕ CABINET GROUND.  
 \$ C156, R151 NOT USED IN ALL MODELS.  
 \*\* C160 NOT USED IN ALL MODELS.

- NC2821-2 USES VHF TUNER 94A492-2 AND UHF TUNERS 94A518-2 OR 94A519-2
- NC2822-1 USES VHF TUNER 94A492-4 AND UHF TUNERS 94A509-3 OR 94A515-3

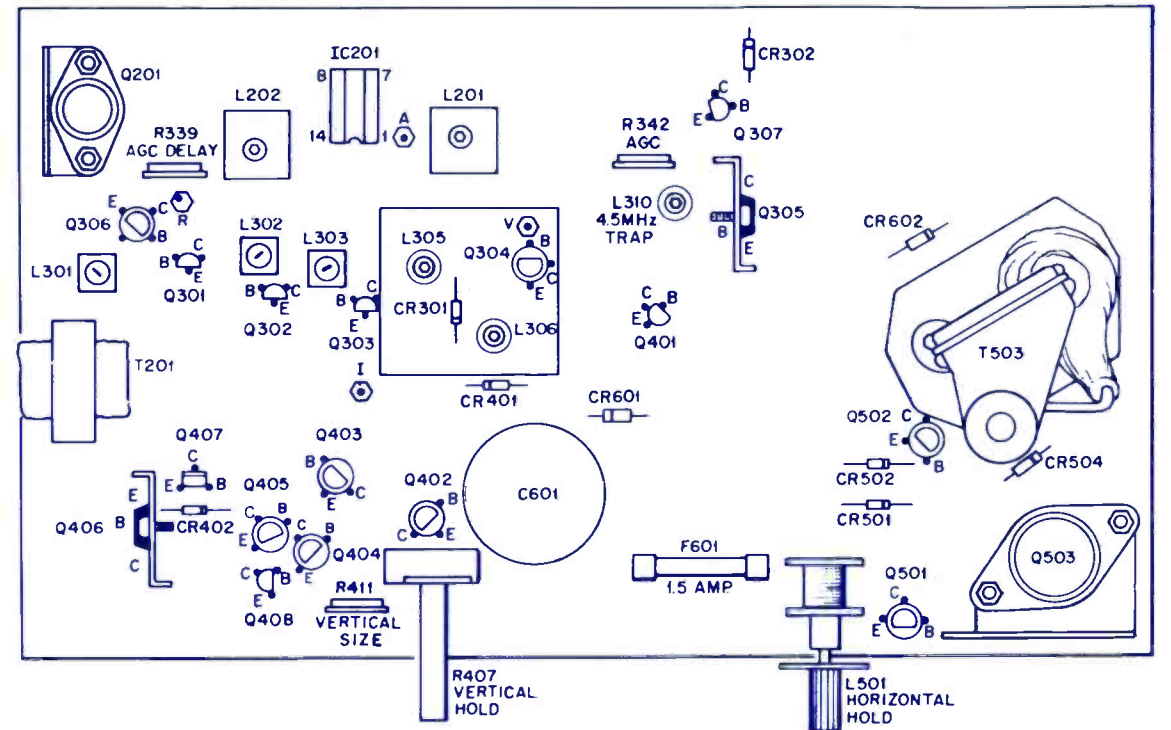
**AIRLINE**  
TV Models  
GAI-11245A,B  
GAI-11265A,B



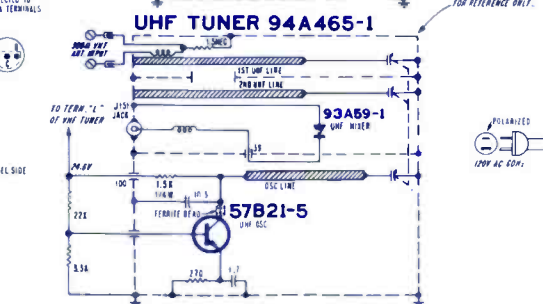
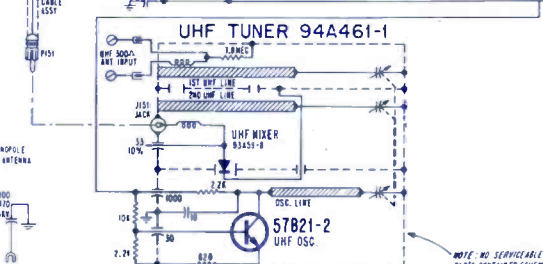
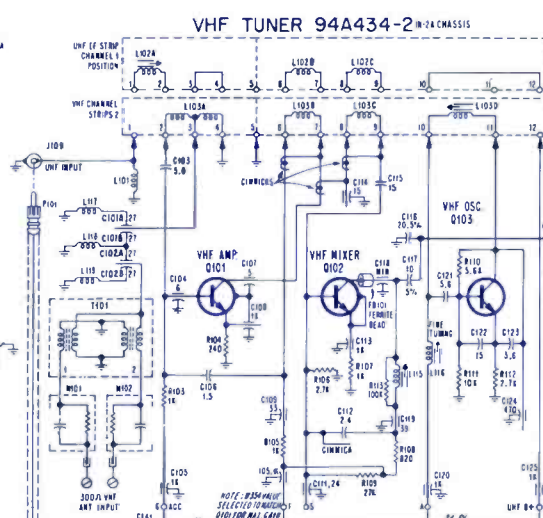
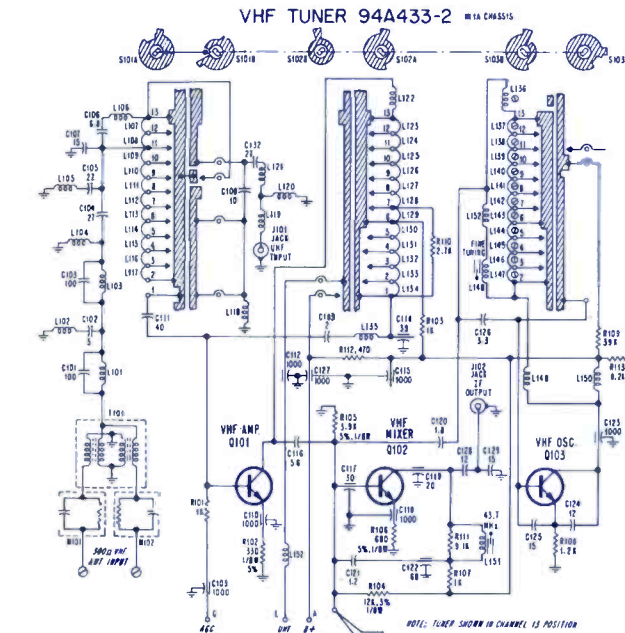
Top View of VHF Tuner (94A433-2) Showing Test Point and Alignment Locations



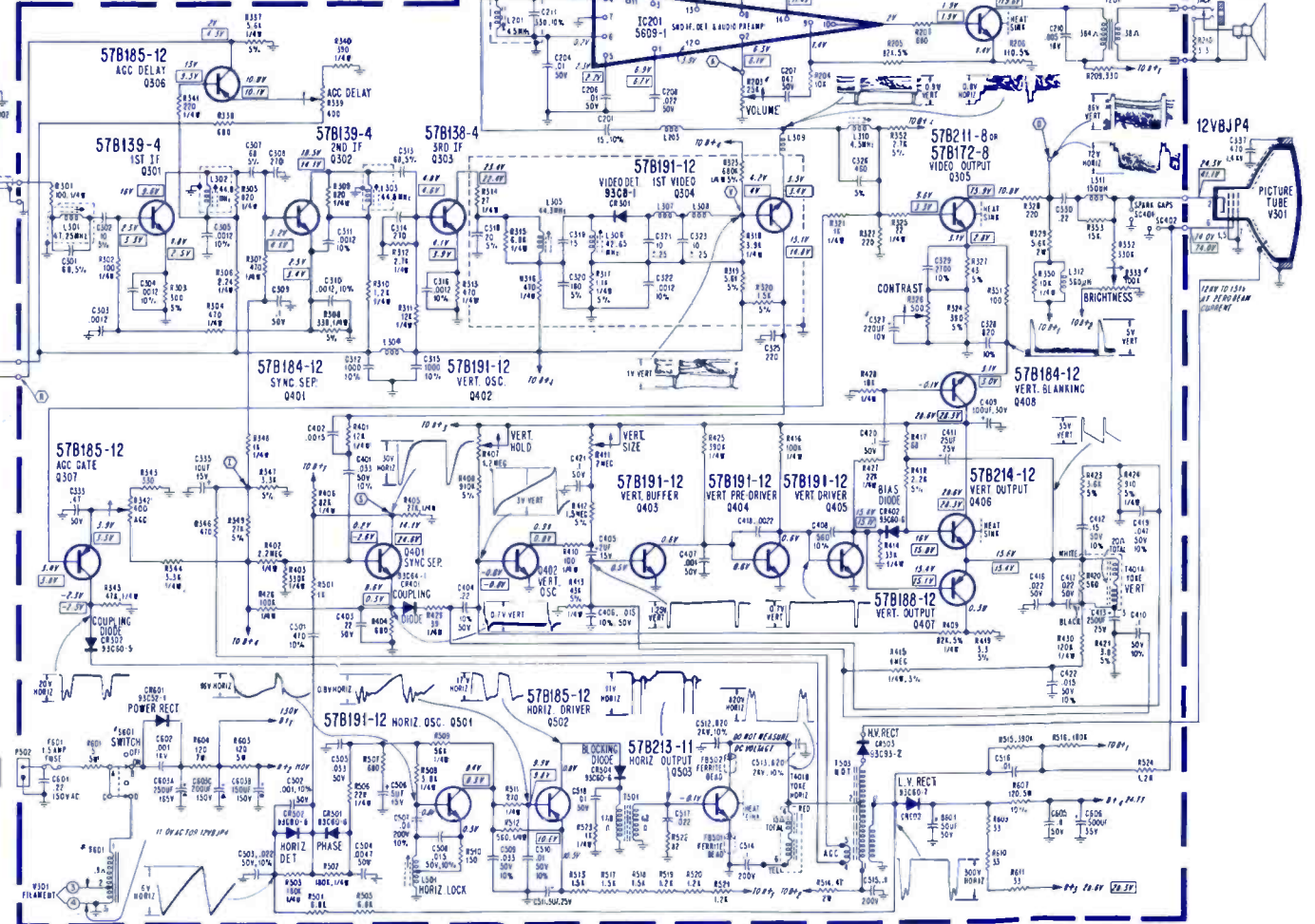
Top View of VHF Tuner (94A434-2) Showing Test Point and Alignment Locations



Top View of Chassis Showing Alignment Locations and Test Points



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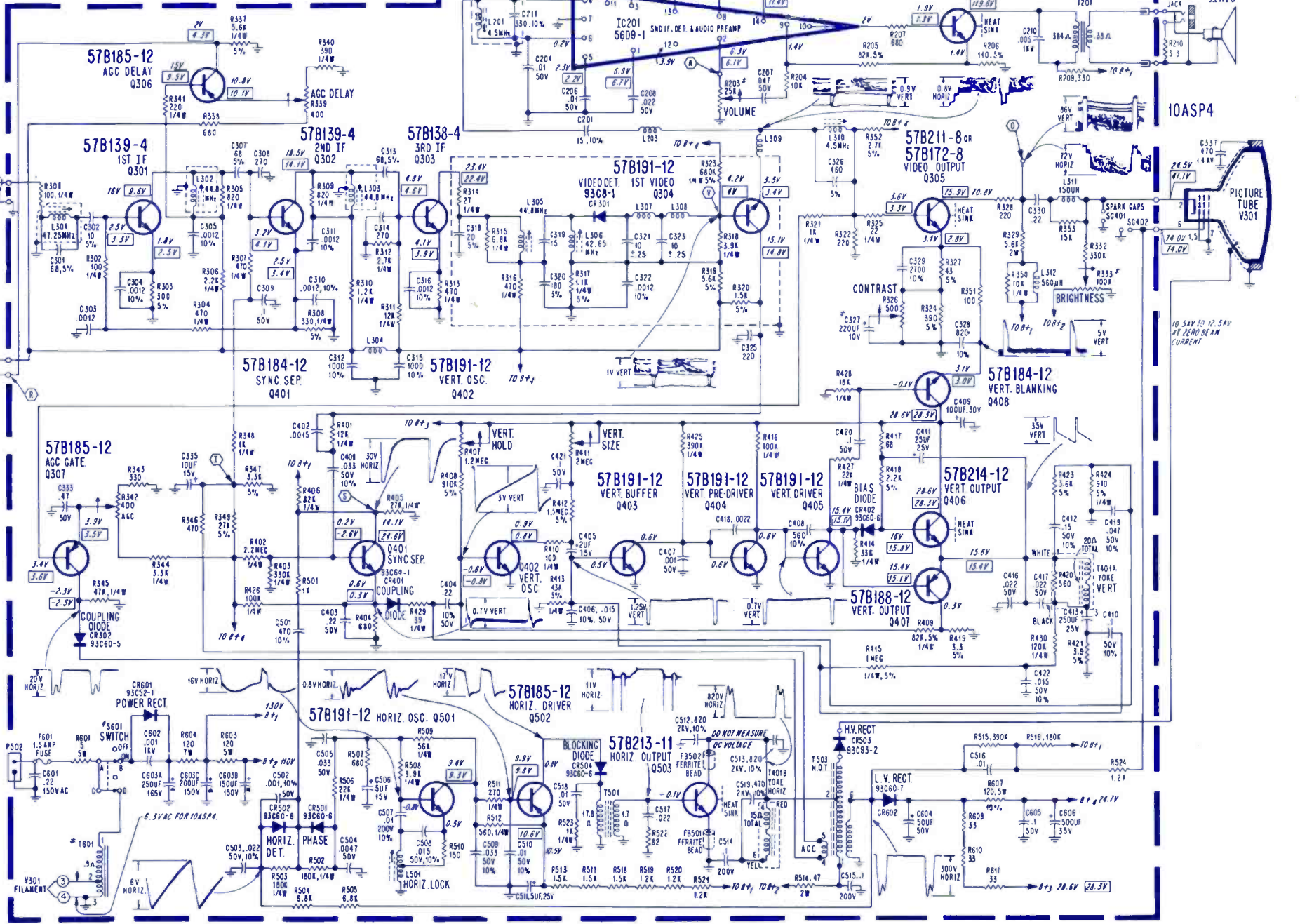
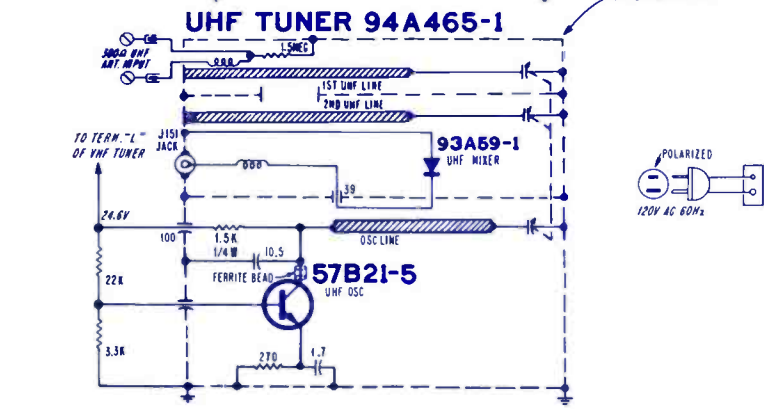
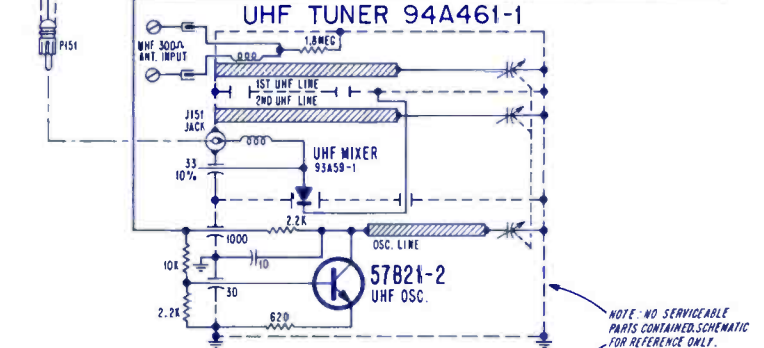
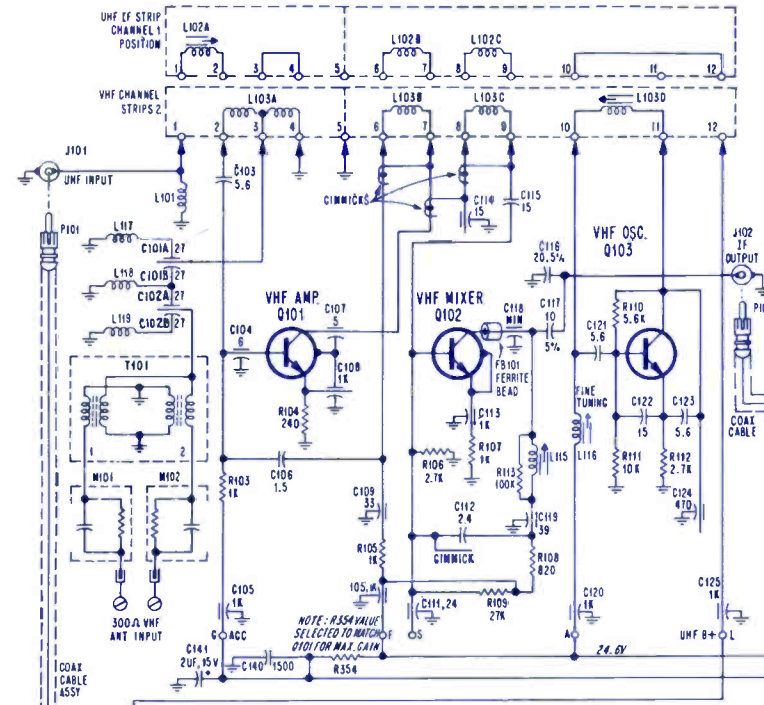


**CHASSIS IDENTIFICATION**

MODEL	CHASSIS
GAI-11245A	T1L6-1A
GAI-11245B	T1L6-2A
GAI-11265A	T1L6-1A
GAI-11265B	T1L6-2A

Terminal views of transistors: T1, T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20, T21, T22, T23, T24, T25, T26, T27, T28, T29, T30, T31, T32, T33, T34, T35, T36, T37, T38, T39, T40, T41, T42, T43, T44, T45, T46, T47, T48, T49, T50, T51, T52, T53, T54, T55, T56, T57, T58, T59, T60, T61, T62, T63, T64, T65, T66, T67, T68, T69, T70, T71, T72, T73, T74, T75, T76, T77, T78, T79, T80, T81, T82, T83, T84, T85, T86, T87, T88, T89, T90, T91, T92, T93, T94, T95, T96, T97, T98, T99, T100, T101, T102, T103, T104, T105, T106, T107, T108, T109, T110, T111, T112, T113, T114, T115, T116, T117, T118, T119, T120, T121, T122, T123, T124, T125, T126, T127, T128, T129, T130, T131, T132, T133, T134, T135, T136, T137, T138, T139, T140, T141, T142, T143, T144, T145, T146, T147, T148, T149, T150, T151, T152, T153, T154, T155, T156, T157, T158, T159, T160, T161, T162, T163, T164, T165, T166, T167, T168, T169, T170, T171, T172, T173, T174, T175, T176, T177, T178, T179, 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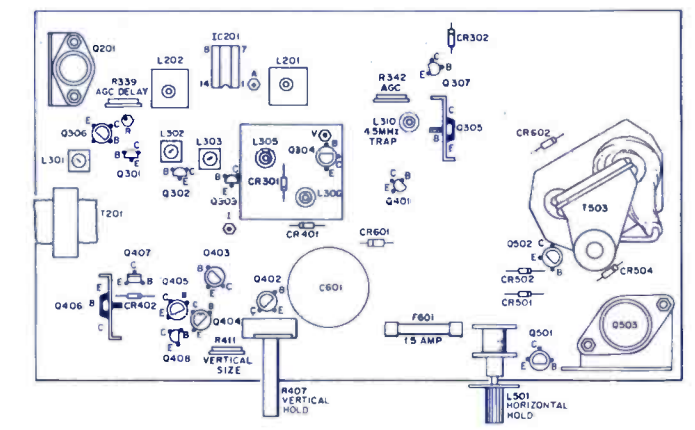
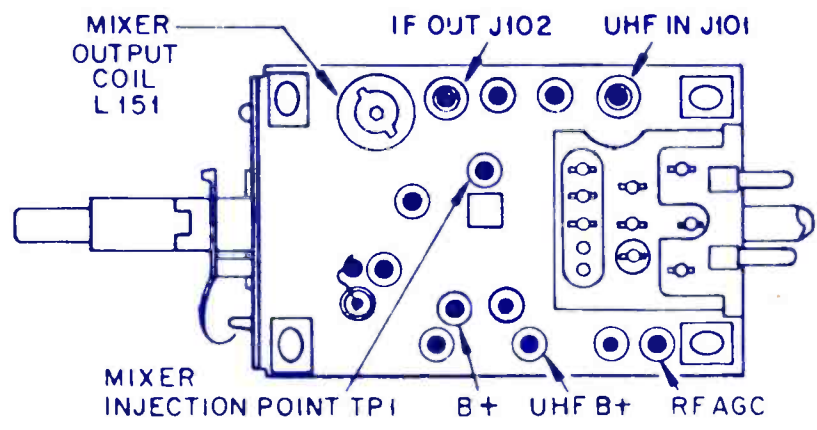
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SYMBOL	DESCRIPTION	AIRLINE PART NO.
C603	250/200/150µf, 165v, elect.	67A30-11
L301	coil 47.25MHz trap	72A415-2
L306	coil detect.	72A316-15
L310	coil 4.5MHz trap	72A317-9
L501	coil horiz lock	94A480-1
T201	transformer audio output	79A172-1
T401A, B	yoke deflect	94A372-3
T501	transformer, horiz driver	72A417-1
T503	transformer horiz output	79A166-2

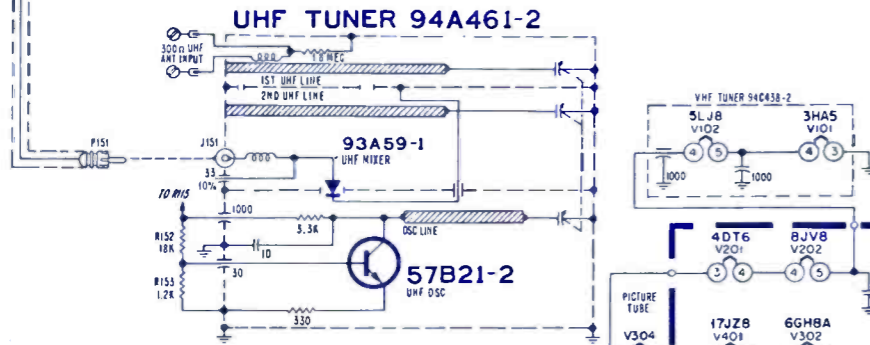
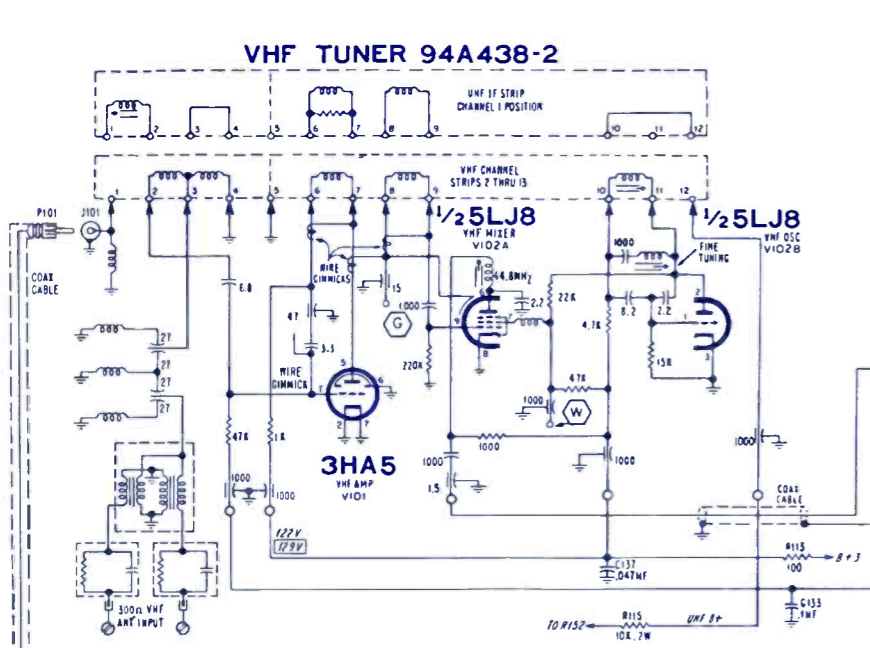
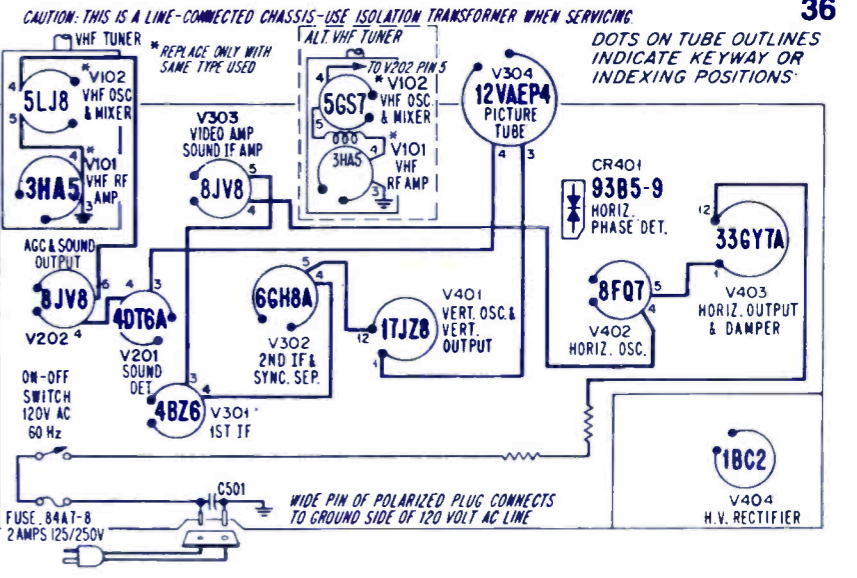
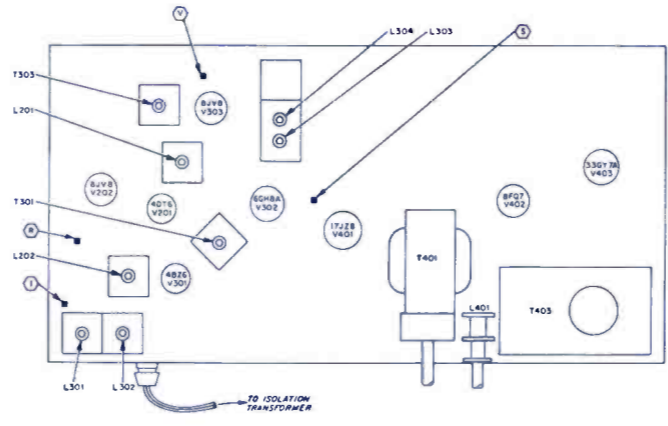
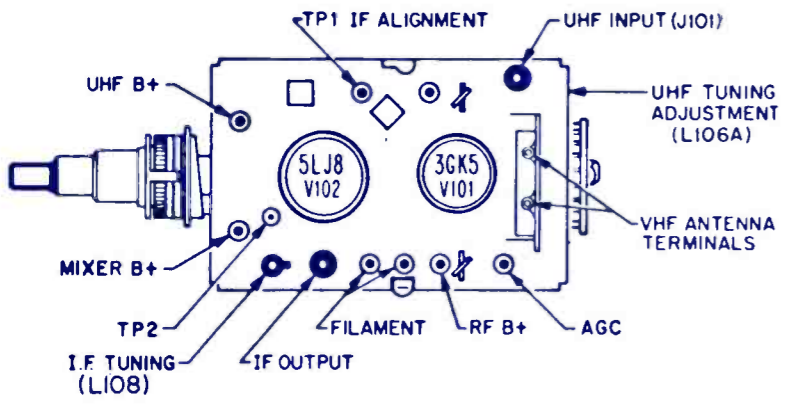
T601	x-former filament	80A117-6
R203	25K vol	75A1-210
R326	500Ω contrast	75A1-211
R333	100K brite	75A1-212
R339	400Ω AGC delay	75A101-35
R342	400Ω AGC	75A101-35
R407	1.2M vert hold	75A191-1
R411	2M vert size	75A101-61
F601	fuse 1.5a	84A-15
	tuner VHF GA1-11115A, GA1-11155A	94A433-2
	tuner VHF GA1-11115B, GA1-11155B	94A434-2

**AIRLINE**  
 TV Models  
 GAI-11115A,B  
 GAI-11155A,B



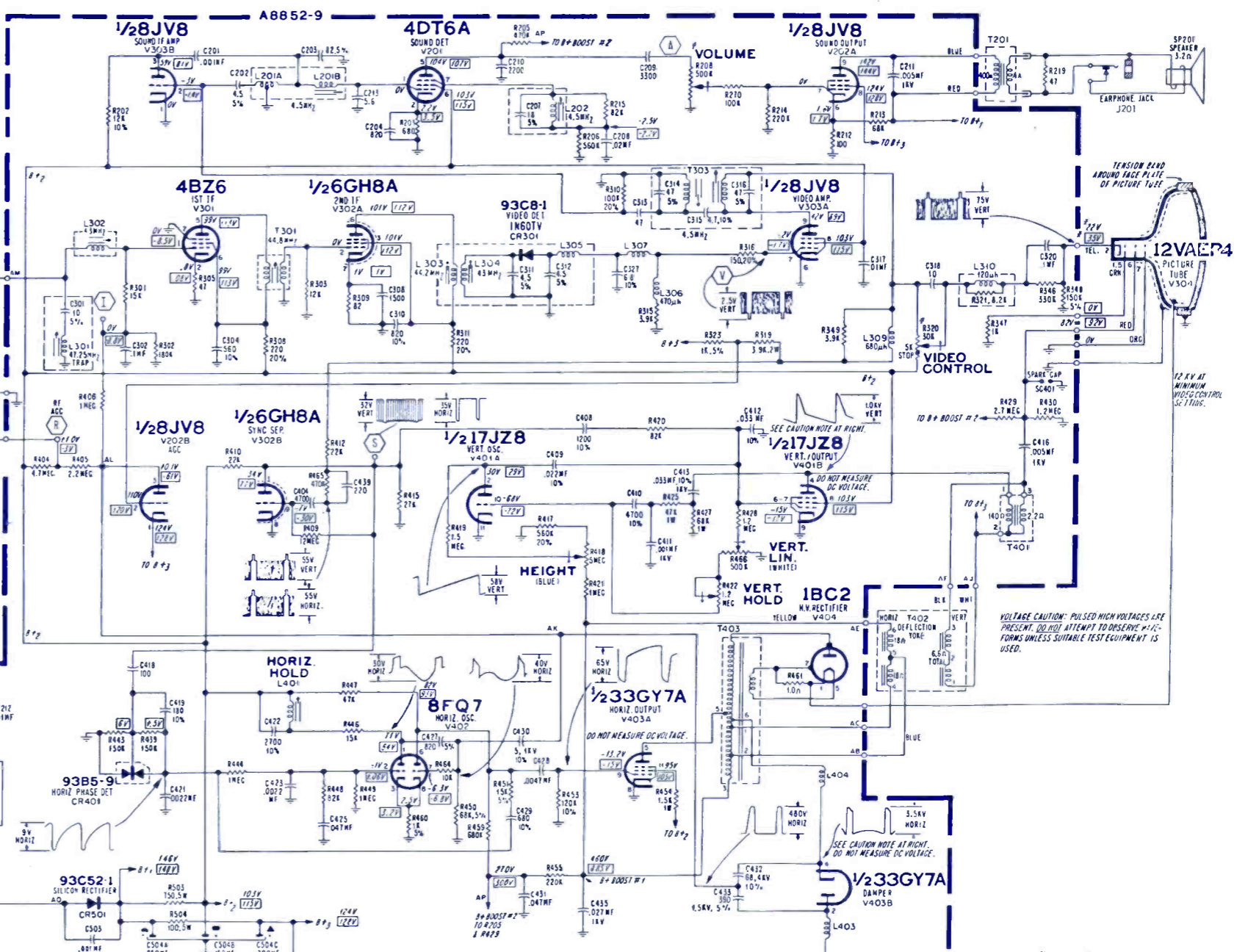
# AIRLINE

TV Models  
GAI-11235A/B



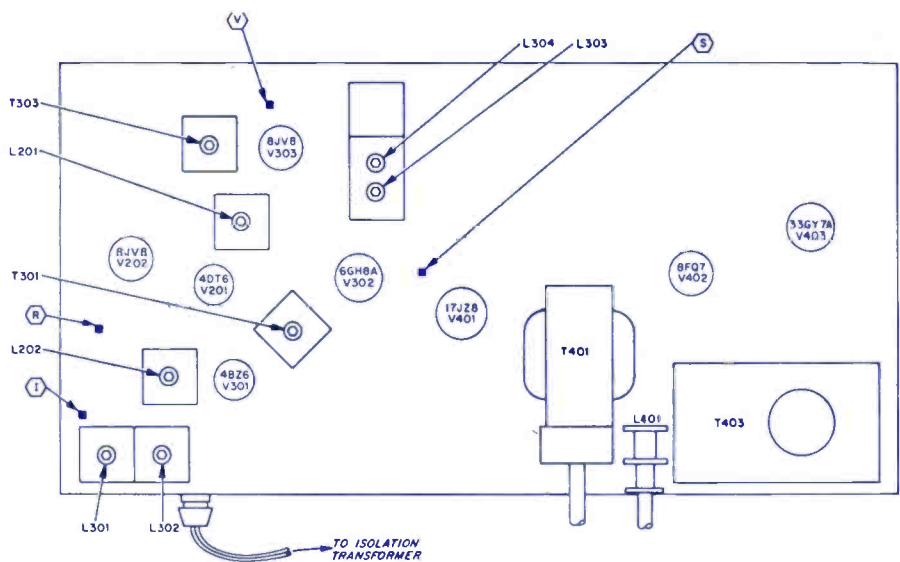
**SCHEMATIC NOTES:**  
 \* PART NOT MOUNTED ON PRECISION WIRED SYSTEM.  
 † VOLTAGE WILL VARY WITH SETTING OF CONTROLS.  
 RESISTOR VALUES 1/2 WATT 10%, CAPACITOR VALUES IN PICOFARADS 20% UNLESS OTHERWISE INDICATED. DC VOLTAGES MEASURED WITH VTVM AT 120V AC LINE. MAX. VIDEO CONTROL SETTING AND MIN. VOLUME. DC VOLTAGES IN RED 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.

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



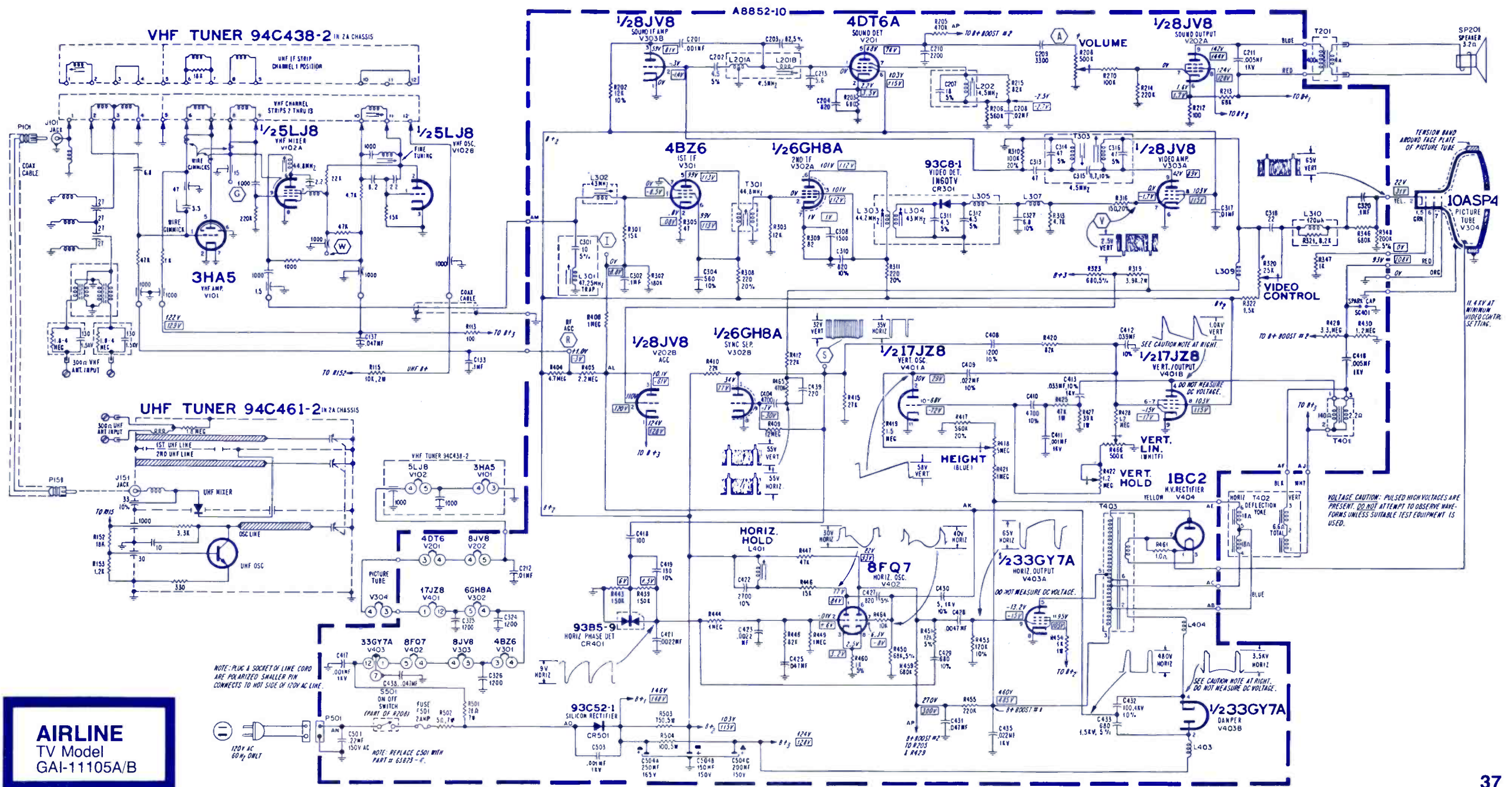
NOTE: Tuner Schematic Diagrams Shown For Reference Only. See Parts List for Service Replaceable Parts.

H 26" X 7 1/2"



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

NOTE: Tuner Schematic Diagrams Shown For Reference Only. See Parts List For Service Replaceable Parts.



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

NOTE: REPLACE CS01 WITH PART # 61823 - 6.

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

SEE CAUTION NOTE AT RIGHT. DO NOT MEASURE DC VOLTAGE.

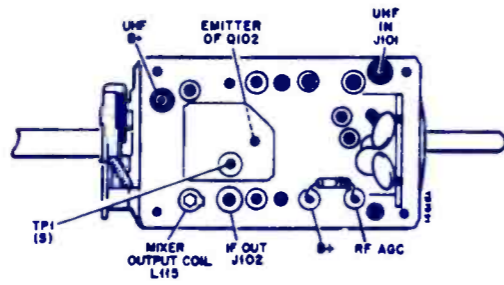
DO NOT MEASURE DC VOLTAGE.

**AIRLINE**  
 TV Model  
 GAI-11105A/B

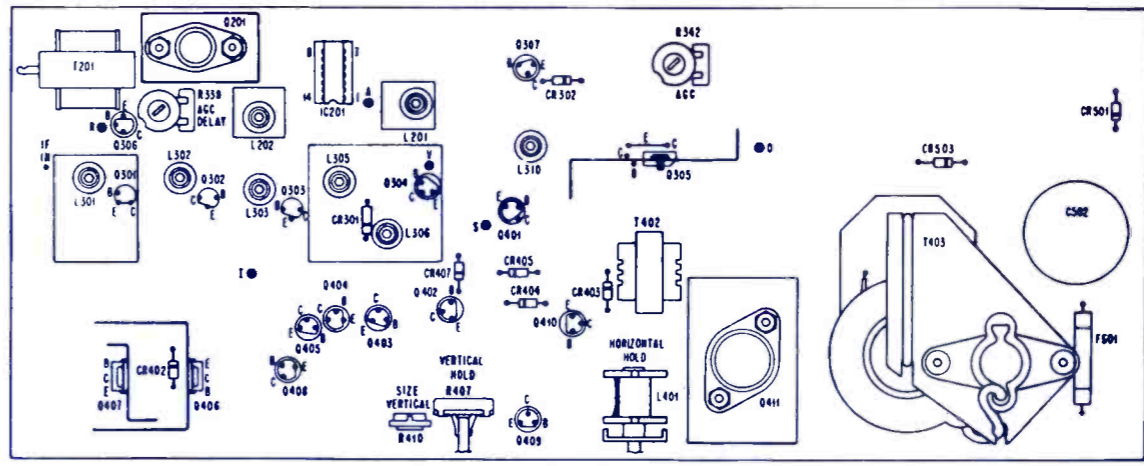
# AIRLINE TV Model GAI-13145A/B

SYMBOL DESCRIPTION AIRLINE PART NO.

- C502A, B, — 250mf/165v, 150mf/150v, 200mf/150v,
- C — electro.....67A30-11
- R203 — 25K, volume.....75A167-9
- R326 — 500 ohm, contrast.....75A167-5
- R333 — 100K, brltle.....75A167-4
- R339 — 400 ohm, AGC delay.....75A101-50
- R342 — 200 ohm, AGC.....75A101-49
- R407 — 1.2M vert hold.....75A191-1
- R410 — 1.5M vert size.....75A101-11
- L201 — coil 4.5MHz, sound IF.....72A317-7
- L310 — coil, sound take-off.....72A317-1
- L401 — coil, horiz osc lock.....94A480-1
- T201 — xformer, audio output assm.....700A1035-5
- T401A, B — yoke, deflect.....750A1089-15
- T402 — xformer, horiz drive.....79A167-1
- T403 — xformer, horiz output.....79A166-1
- T501 — autotransformer, CRT filament.....80A117-2
- F501 — fuse, 1.5a.....31801.5
- 77A221-2 — switch, on-off w/pushbutton.....77A221-2
- .....tuner, VHF, GAI-13145A.....94A433-1
- .....tuner, VHF, GAI-13145B.....94A434-1



Top View of VHF Tuner (94A434-1) Showing Test Point and Alignment Locations

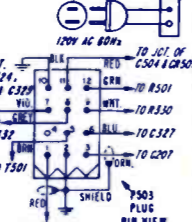
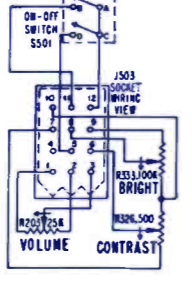
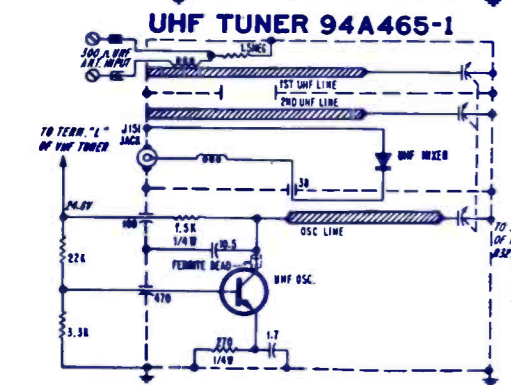
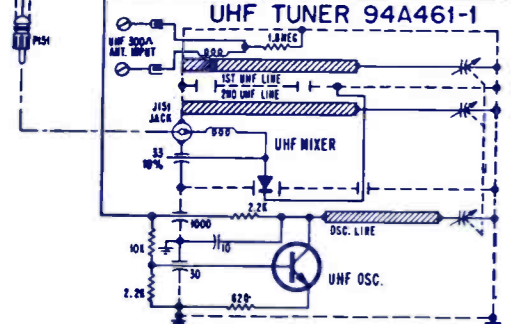
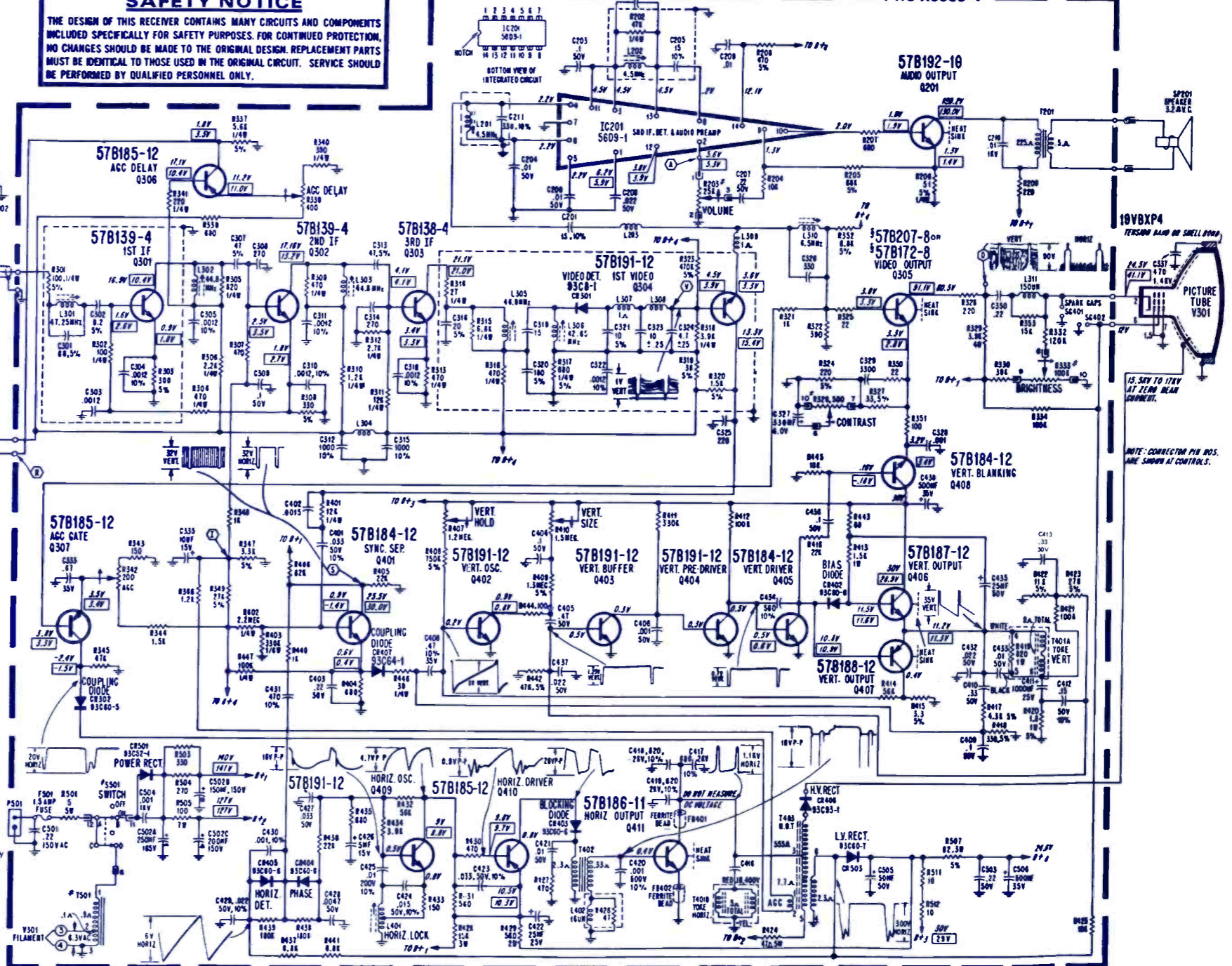
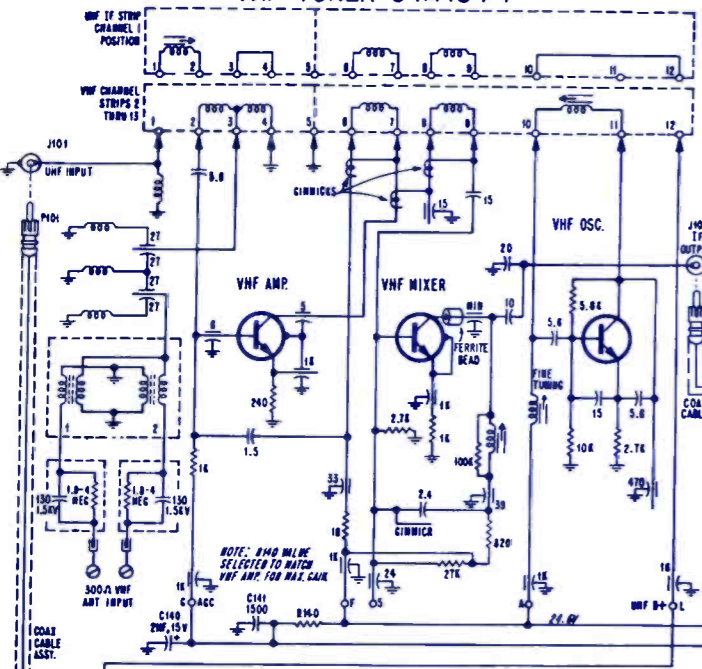


## VHF TUNER 94A434-1

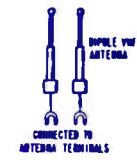
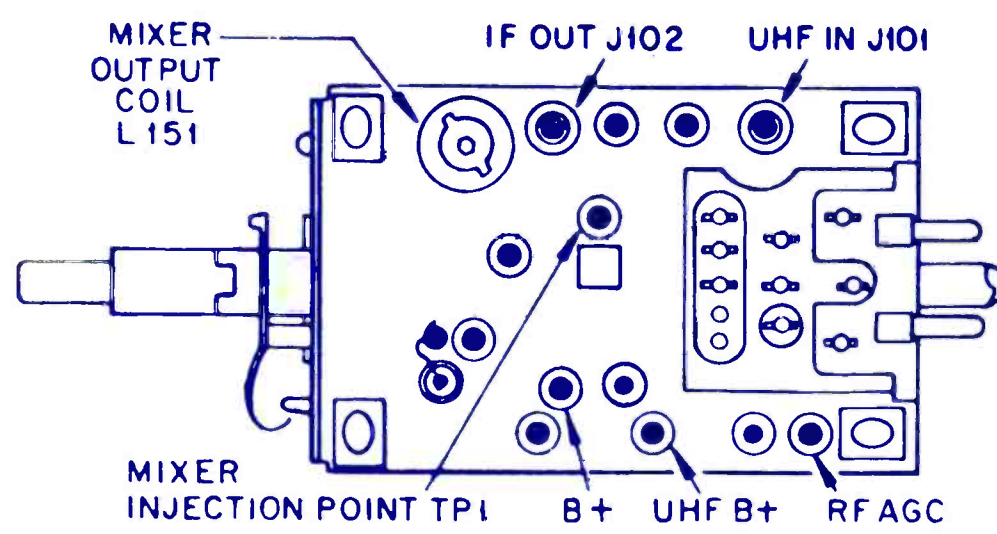
## SAFETY NOTICE

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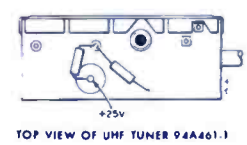
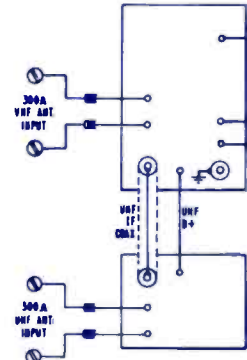
## PWS A8668-4



NOTE: CONNECTOR PIN NOS. ARE SHOWN AT CONTROLS.



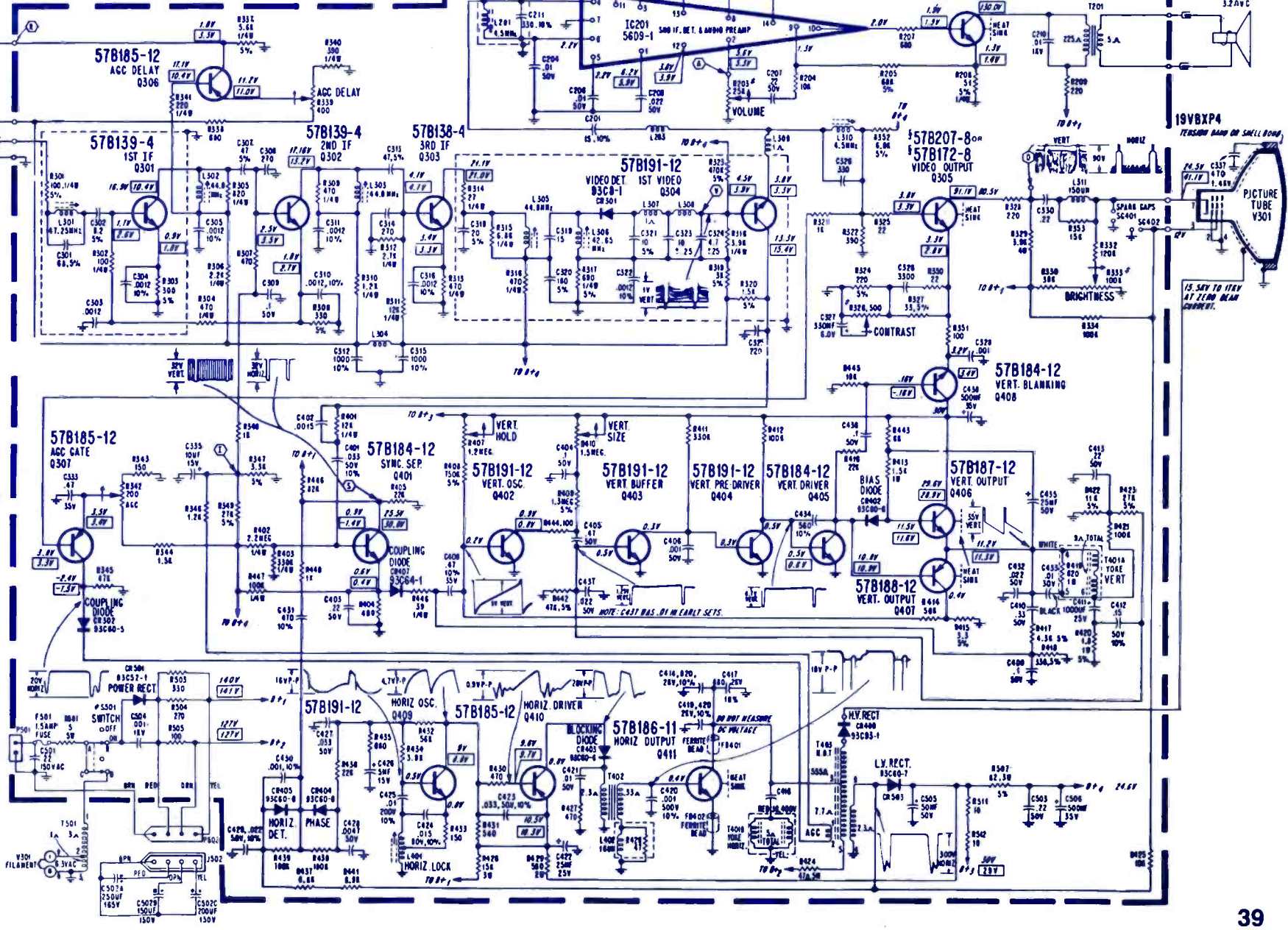
VHF TUNER  
94A433-1 (T24K6-1B)  
or  
94A434-1 (T24K6-2B)



UHF TUNER  
94A465-1 (T24K6-1B)  
or  
94A461-1 (T24K6-2B)

**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.

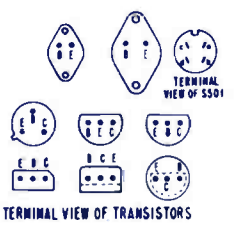
PWS A8856-4



**SCHEMATIC NOTES:**  
UNLESS OTHERWISE INDICATED, RESISTOR VALUES  $\geq 10K$ ,  $1/2W$  CAPACITANCE VALUES 1 OR HIGHER ARE IN P.P.  
CAPACITANCE VALUES LESS THAN 1 ARE IN P.P. UNLESS OTHERWISE INDICATED.  
RESISTANCE VALUES OF COILS LESS THAN 10 IS NOT SHOWN. IN INDICATES CYCLES PER SECOND.  
**VOLTAGE AND WAVEFORM NOTES:**  
DC VOLTAGES TAKEN WITH VTVM, WITH RESPECT TO COMMON CHASSIS - L DC VOLTAGES, WAVEFORMS AND P-P VOLTAGES TAKEN WITH 170V AC LINE AND MAY VARY DEPENDING ON CALIBRATION OF TEST EQUIPMENT AND PARTS TOLERANCES. WHEN TWO DC VOLTAGES ARE INDICATED MEASUREMENT TAKEN WITH TV SIGNAL IS SHOWN IN BLOCK, MEASUREMENT TAKEN WITH NO SIGNAL IS SHOWN WITHOUT BLOCK. OFF-SIGNAL VOLTAGES TAKEN ON UNUSED VHF CHANNEL WITH ANTENNA TERMINALS SHORTED. VOLUME CONTROL AT MINIMUM, BRIGHTNESS AND CONTRAST CONTROLS AT MAXIMUM. ALL OTHER CONTROLS IN NORMAL OPERATING POSITION. ON-SIGNAL VOLTAGES AND WAVEFORMS TAKEN WITH TRANSMITTED NOISE FREE SIGNAL PRODUCING 4 TO 5 VOLTS ACC AT TEST POINT (X). CONTRAST AND BRIGHTNESS CONTROLS AT MAXIMUM.  
**TRANSISTOR CAUTION:**  
TO AVOID DAMAGE TO TRANSISTORS DO NOT ARC PWR SOURCE LEAD TO COMMON GROUND. DO NOT TURN SET ON WITH TRANSISTORS IN; TURN SET ON LEADS REMOVED OR UNSOLDERED. USE CAUTION TO PREVENT ACCIDENTAL SHORT BETWEEN COMPONENT TERMINALS OR TO COMMON GROUND. DO NOT USE AN ORDINARY OHMMETER FOR RESISTANCE MEASUREMENT, USE VTVM OR R X 100 RANGE OR HIGHER.  
**AGC CAUTION:**  
DO NOT DISTURB FACTORY SETTING OF AGC CONTROLS. IF AGC ADJUSTMENT IS REQUIRED REFER TO SERVICE NOTES.  
IF NECESSARY TO DISTURB AGC ADJUSTMENT, MARK ROTOR POSITION SO THAT CONTROL CAN BE RETURNED TO ITS EXACT ORIGINAL SETTING.  
ALL WAVEFORMS TAKEN WITH A 500- $\mu$ SEC OSCILLOSCOPE. SOME DEGRADATION WILL BE NOTICED IN WAVEFORMS WHEN USING BROADBAND EQUIPMENT.  
A COMPONENT NOT MOUNTED OR PRECISION BIPOLAR SYSTEM.  
**WARNING:**  
USE ISOLATION TRANSFORMER WHEN SERVICING WITH CABINET BACK REMOVED.  
SEE CHASSIS CHART 19-1.  
REPLACE WITH SAME PART NO. AS ORIGINAL.

**CHASSIS IDENTIFICATION**

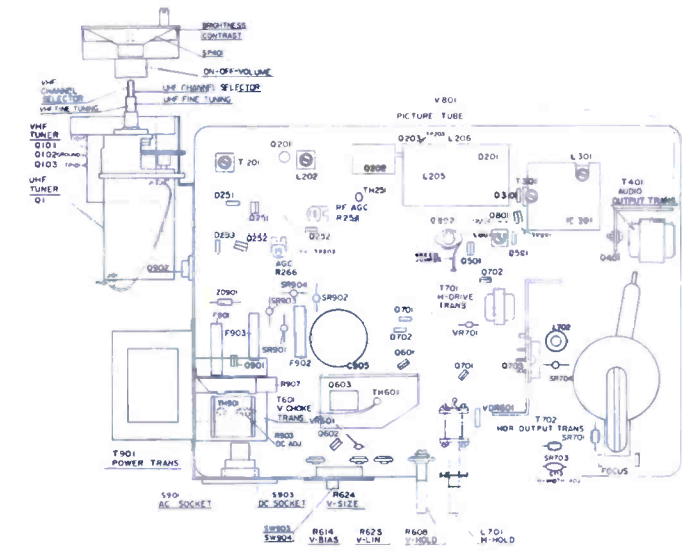
CHASSIS	MODEL
T24K6-1B	GAI-13135A
T24K6-2B	GAI-13135B



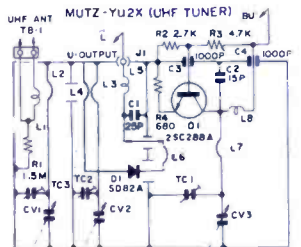
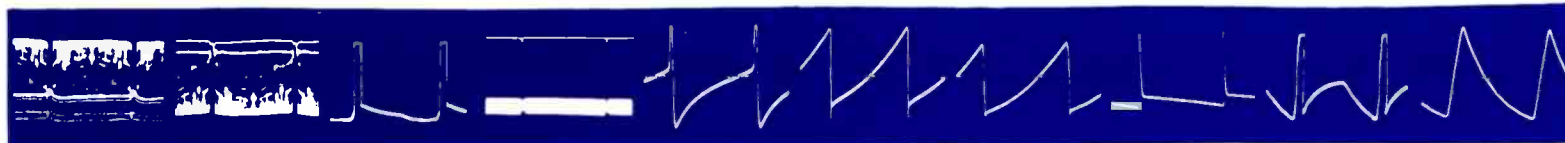
**AIRLINE**  
TV Model  
GAI-13135A/B





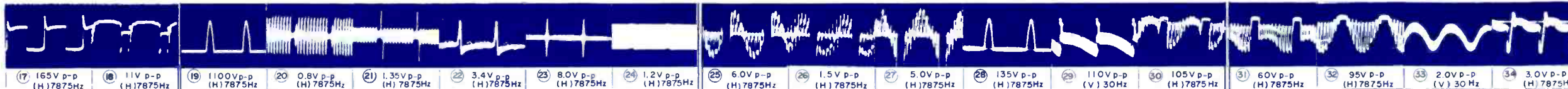


SYMBOL	DESCRIPTION	AIRLINE PART NO.
R254	10K pot RF AGC	J25635
R266	1K pot AGC	
R303		
SW901	10K pot volume w/on-off switch	J25644
R608	100K pot vert hold	J25637
R614	5K pot vert bias	J25638
R624	50K pot vert size	J25639
R625	1K pot vert lin	J25640
R810	1K pot contrast	J25641
R813	250K pot brite	J25642
R903	1K pot DC adjust	J25643
L301	coil sound detect	J611143
L701	coil horiz hold	J611141
L801	coil 4.5MHz trap	TV62258
T401	x-former audio output	J62762
T601	x-former vert choke	TV11169
T702	x-former horiz output	J11430
T901	x-former power	J11431
M208	filter pix detect	J611140
SR701	diode focus rectifier	J241271
TH251	therm AGC	J241263
VDR601	volt dependent resistor	TV24250
VR601	varistor vert	J241261
VR701	varistor horiz	J241261
F901	fuse 0.75a 250v sio blo pigtail	J18512
F902	fuse 3A 125v sio blo pigtail	J15003
F903	fuse 2a 125v sio blo pigtail	J15002
	tuner VHF	J35446
	yoke deflect	J611147

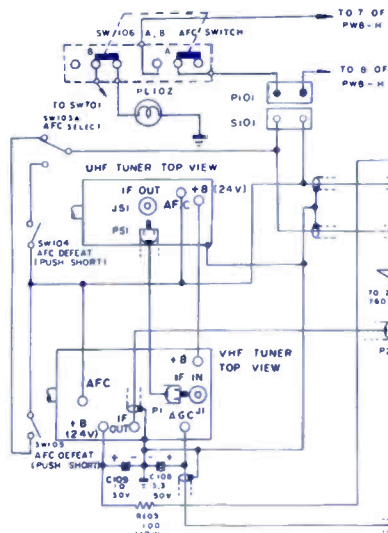
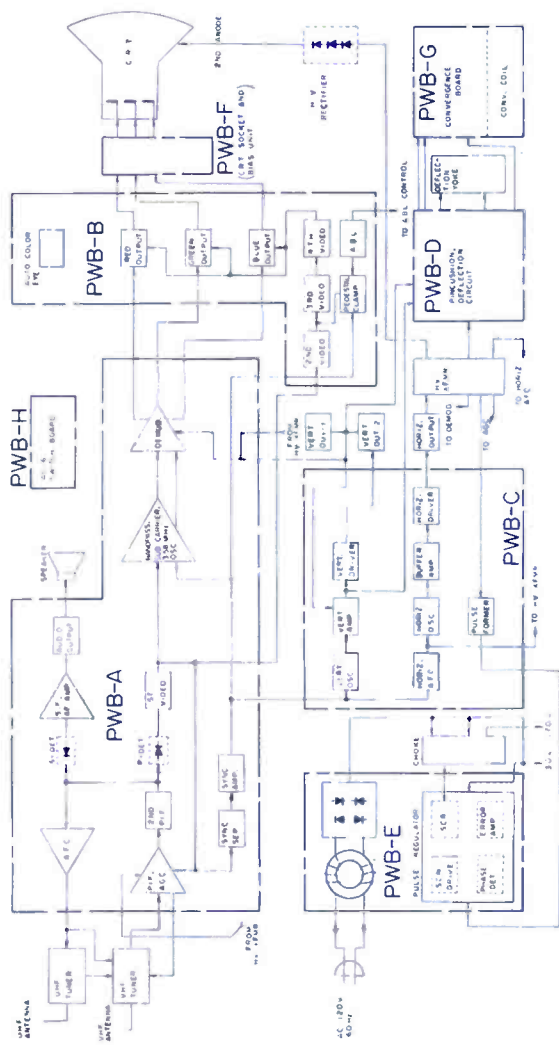


# AIRLINE

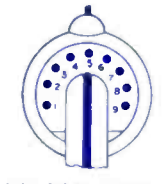
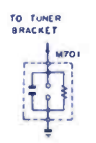
Color TV Model  
GEN-12985A



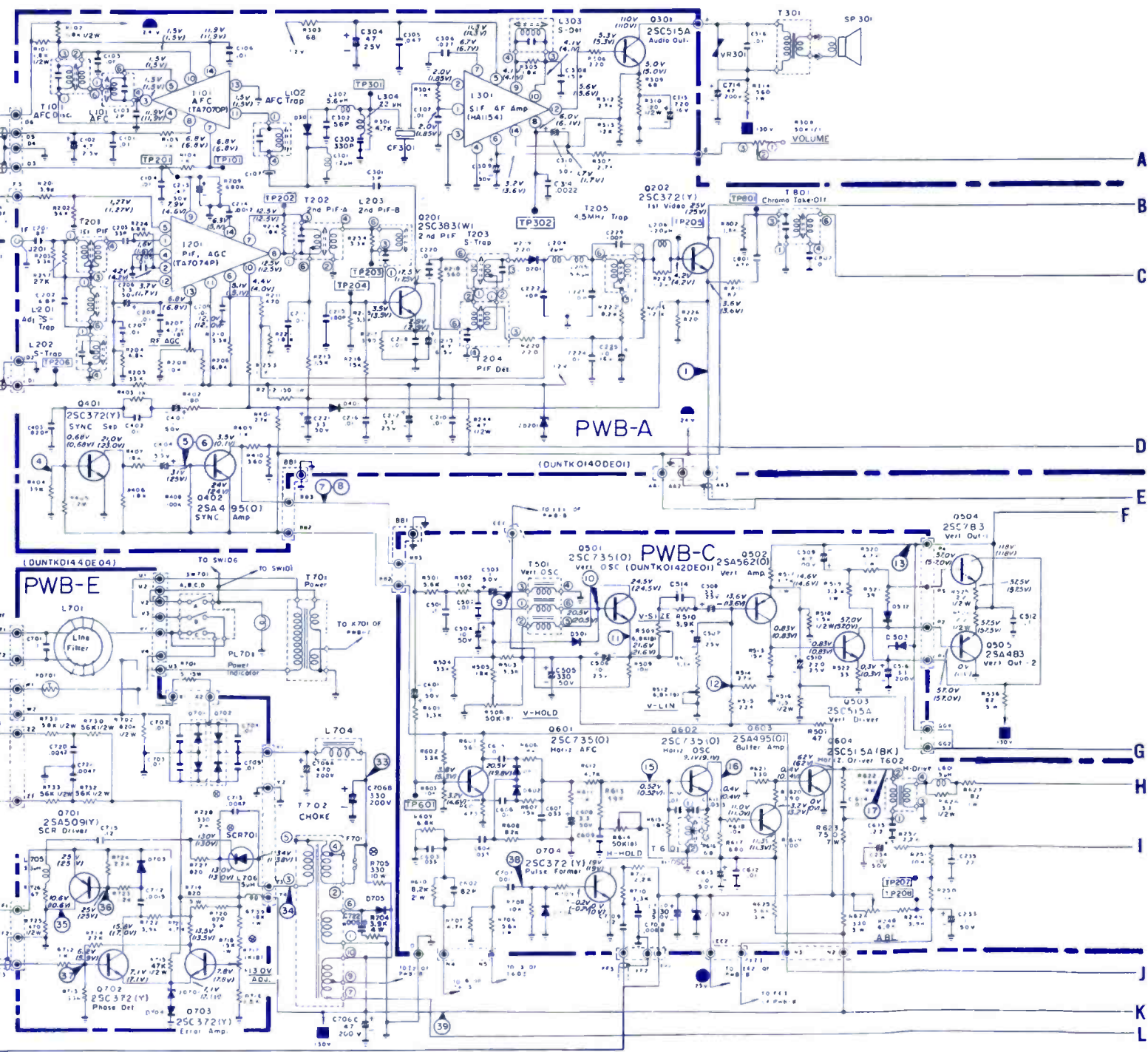
## BLOCK DIAGRAM



CONNECTOR IDENTIFICATION  
 1. A - Z NUMBER OF PLUGS ARE CONNECTED FROM THE PWB (PRINTED WIRING BOARD) TO COMPONENTS WITHOUT PWB.  
 2. AA - HH (NUMBER OF PLUG) ARE CONNECTED FROM ONE PWB TO ANOTHER PWB.

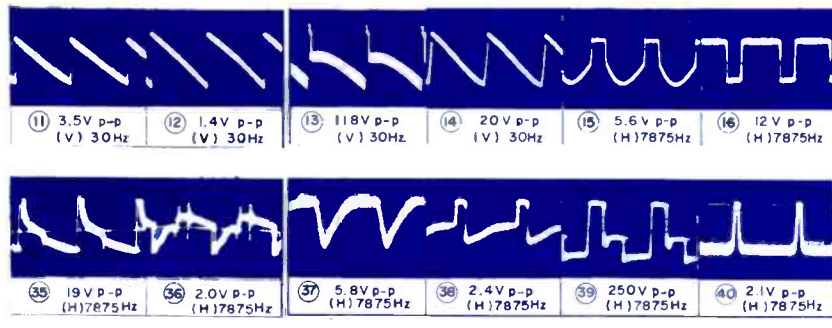


VOLTAGE	SYMBOL	LEGEND
HV	●	26.5KV (O BEAM)
B	■	170V (O BEAM)
B1	■	130V
B2	●	2.5V
B3	●	2.4V



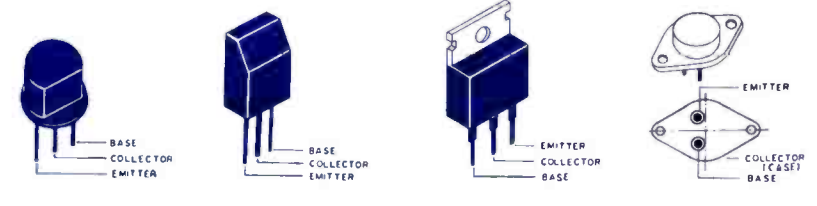
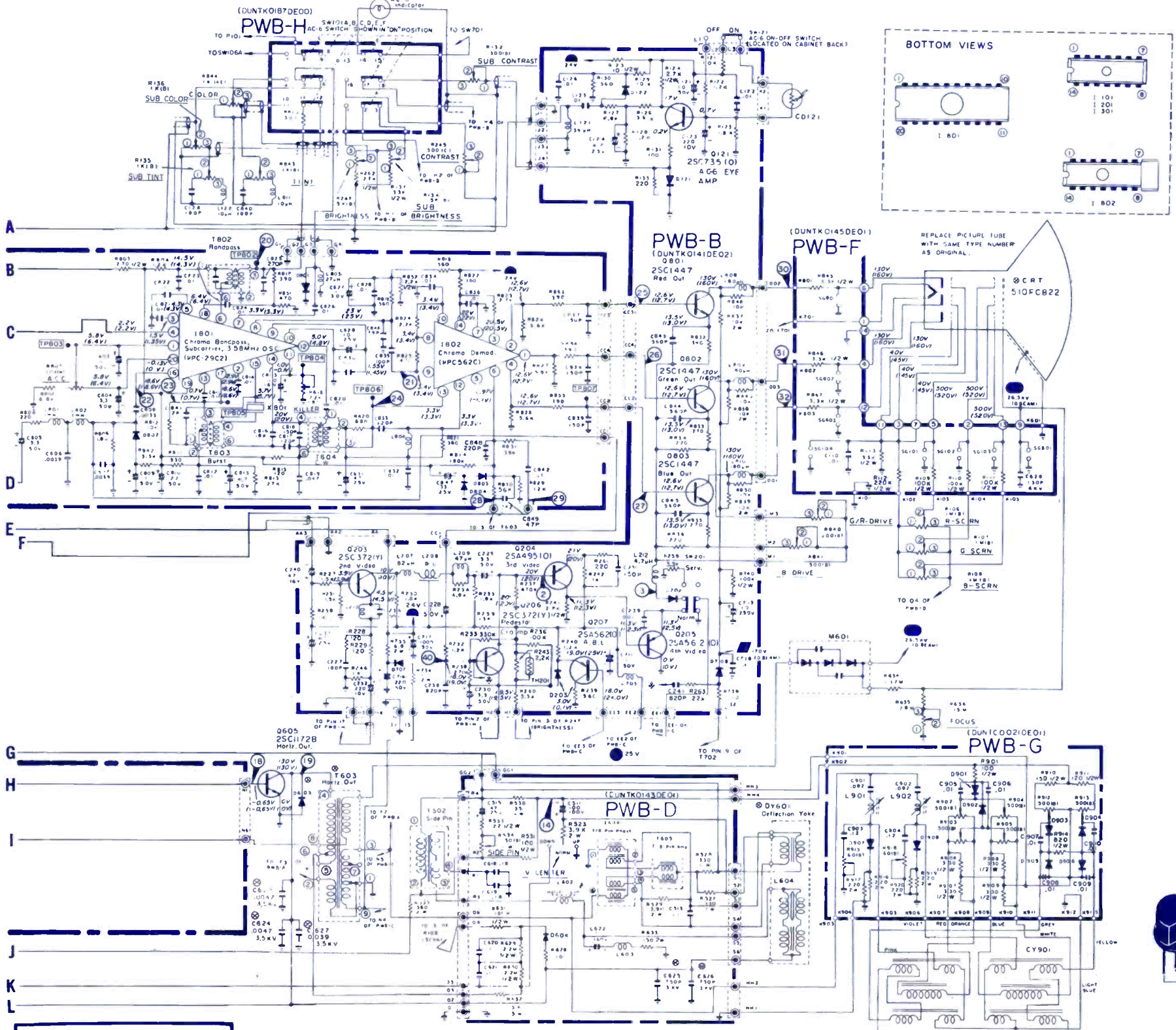
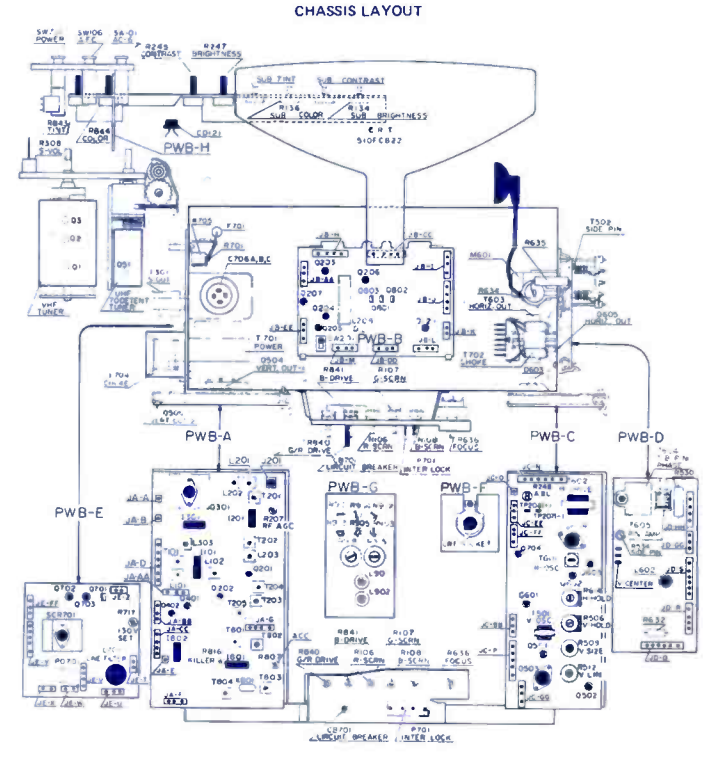
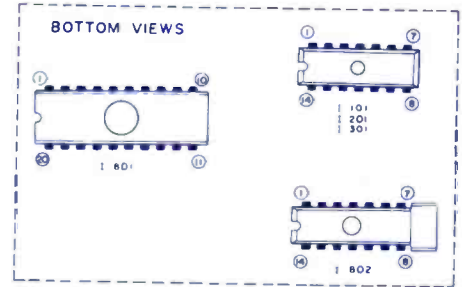
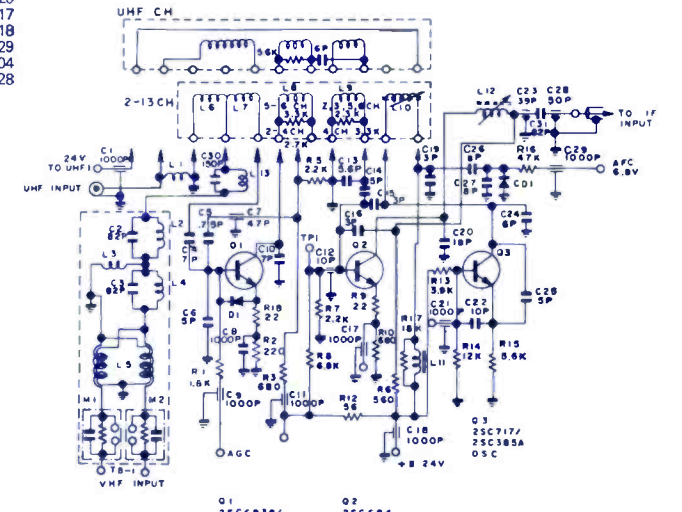
## TELEVISION ELECTRICAL SPECIFICATIONS

POWER INPUT	120 Volts AC, 60Hz
POWER CONSUMPTION	150 Watts
PICTURE SIZE	Approx. 185 sq. in.
SWEEP DEFLECTION	Magnetic
CONVERGENCE	Magnetic
FOCUS LENS	Bipotential
AUDIO POWER OUTPUT RATING	1.0 Watt @ 10% Distortion
SPEAKER SIZE	3 1/16" Dia., 1.0 oz Mag.
VOICE COIL IMPEDANCE	8.0 ohms @ 400 Hz
ANTENNA INPUT IMPEDANCE	300 ohms balanced
TELEVISION RF FREQUENCY RANGE	All 12 television channels 54MHz to 88MHz
	Any of 70 UHF channels 174MHz to 216MHz
INTERMEDIATE FREQUENCIES	470MHz to 890MHz
Picture IF Carrier Frequency	45.75MHz
Sound IF Carrier Frequency	41.25MHz
Color Sub-Carrier Frequency	42.17MHz (Nominal)



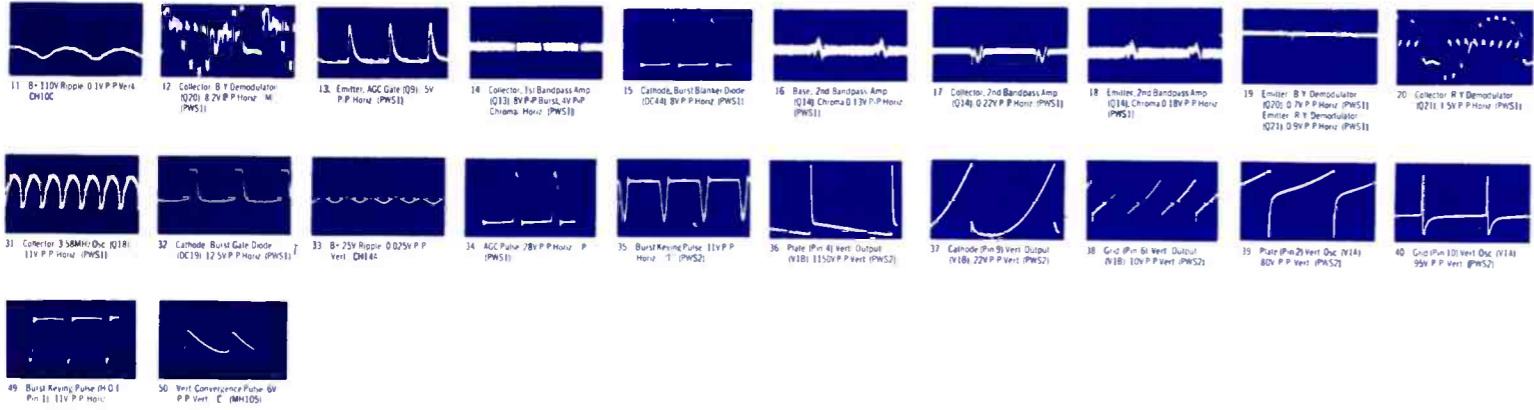
SYMBOL	DESCRIPTION	AIRLINE PART NO.	C706A	C706B	C706C	J321064
R207	4.7K, Pot., RF AGC	J25618	470 μf @ 200V	330 μf @ 200V, Electrolytic	47 μf @ 250V	
R807	10K, Pot., ACC	J25620				TV25523
R816	22K, Pot., Color Killer	J25621				J25614
L303	Coil, sound detector	J611113	R132	500n, Pot., Sub. contrast		J25614
T303	x-former, sound trap	J611113	R135	1K, Pot., Sub. tint		J25614
T801	x-former, chroma take-off	J611109	R136	1K, Pot., Sub. color		J25614
T802	x-former, bandpass	J611117	R245	500n, Pot., contrast		J25625
T803	x-former, burst	J611122	R247	5K, Pot., brightness		J25613
T804	x-former, C.V.	J611119	R308	50K, Pot., Volume (slide)		J25631
L208	Coil, delay line	J611123	R636	15M, Pot., focus		J25612
TH201	Thermistor	J241237	R843	1K, Pot., tint		J25617
R248	6.8K, Pot., auto brightness	J25619	R844	1K, Pot., color		J25626
R506	50K, Pot., vert. hold	J25624	DY601	coil, deflection yoke		J611126
R509	6.8K, Pot., vert. size	J25622	T301	x-former, audio output		J11421
R614	60K, Pot., horiz. hold	J25624	T502	x-former, side pincushion		J11420
T501	x-former, vert. oscillator	J11419	T603	x-former, horiz. output		J11417
T601	x-former, horiz. oscillator	J611101	T701	x-former, power		J11418
R717	1K, Pot., +130V adjustment	J25623	T702	x-former, power choke		J11429
			F701	fuse, 4a pigtail (slo blo) tuner, VHF		J35428

### VHF TUNER ASSEMBLY



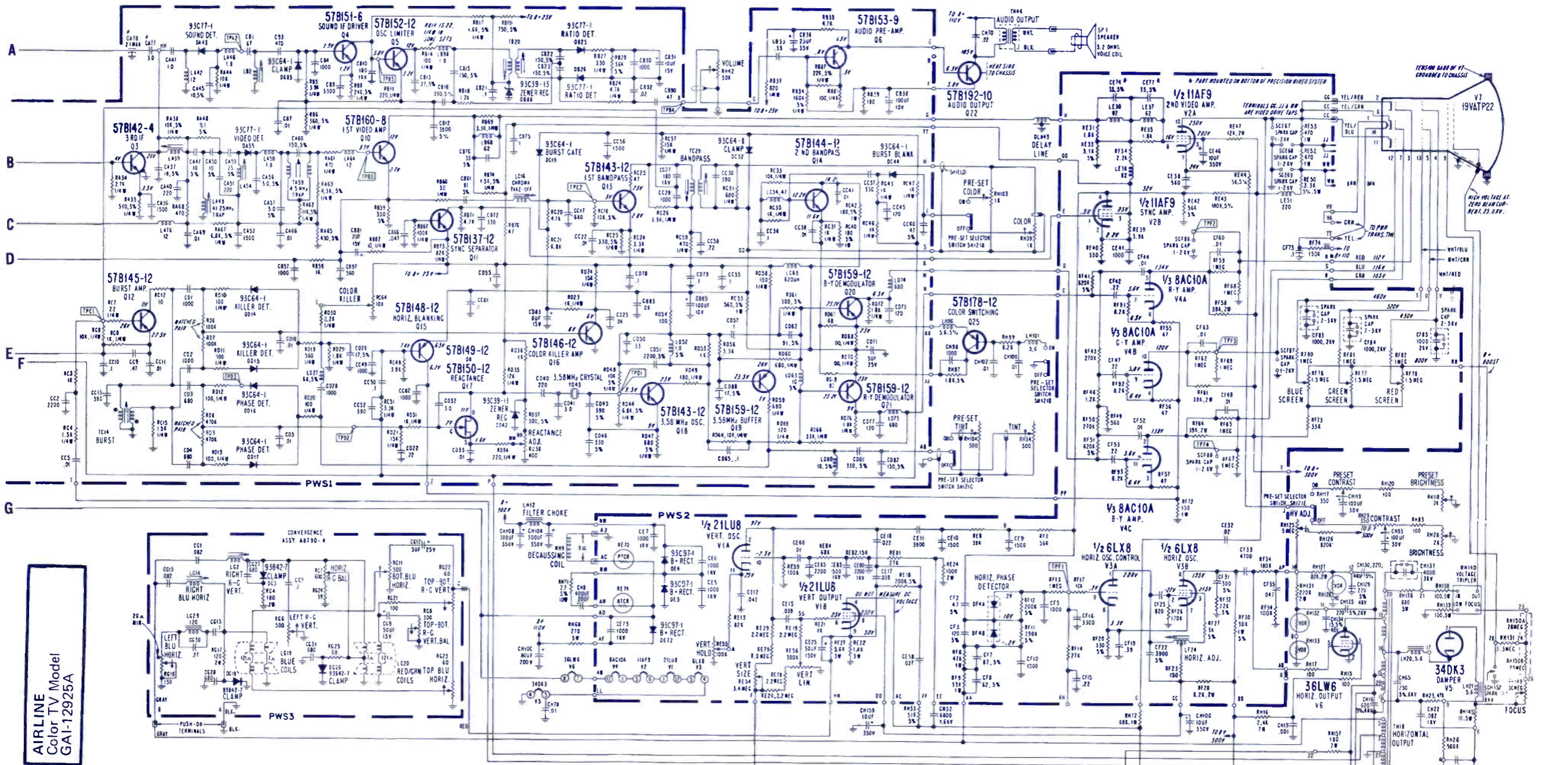
AIRLINE Color TV Model GEN-12985A



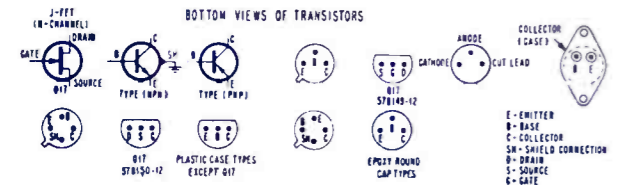


SYMBOL	DESCRIPTION	AIRLINE PART NO.
CH10A, B,	C, D—300µf/350V, 300µf/350V, 80µf/200V, 10µf/350V elect	67A15-415
CH14A, B	—2000µf/40V, 2000µf/40V elect	67A15-413
RH150A,	B—bleeder focus module	61A71-1
RA82	—2K AGC delay	75A101-31
RA83	—2K AGC	75A101-31
RC64	—10K color kill	75A101-18
RE54	—3.4M vert size	
RE55	—100K vert hold	75A95-18
RE56	—300K vert lin	
RH28	—2K brite	75A140-25
RH29	—350n contrast	75A140-26
RH39	—1K color	75A175-12
RH42	—50K vol w/SH41	75A140-31
RH125	—5M high volt adj	75A135-57
RH149	—30M focus adj	75A108-8
LC16	—coil chroma take-off	72A329-1
LD52	—coil 1µ, 3.58MHz output	73A55-37
LF24	—coil horiz adj	94A351-1

MH57	—deflect yoke	94A571-2
TA59	—xformer, 4.5MHz trap	72A216-7
TB20	—xformer ratio detect	72A318-1
TC14	—xformer burst	72A325-3
TH2	—xformer line choke	73A31-16
TH4	—xformer power	80A108-14
TH18	—xformer horiz output	79A169-3
TH44	—xformer audio output	79A141-4
TH73	—xformer vert output	79A168-1
FH5	—fuse, 225a chemical	84A28-12
FH27	—fuse 2.25a chemical tuner VHF	84A28-16
		94A463-2

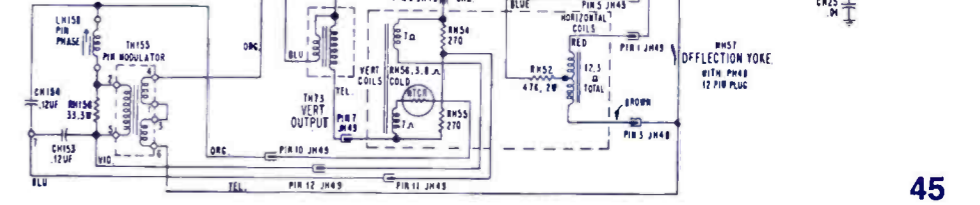


**AIRLINE**  
**Color TV Model**  
**GAI-12925A**



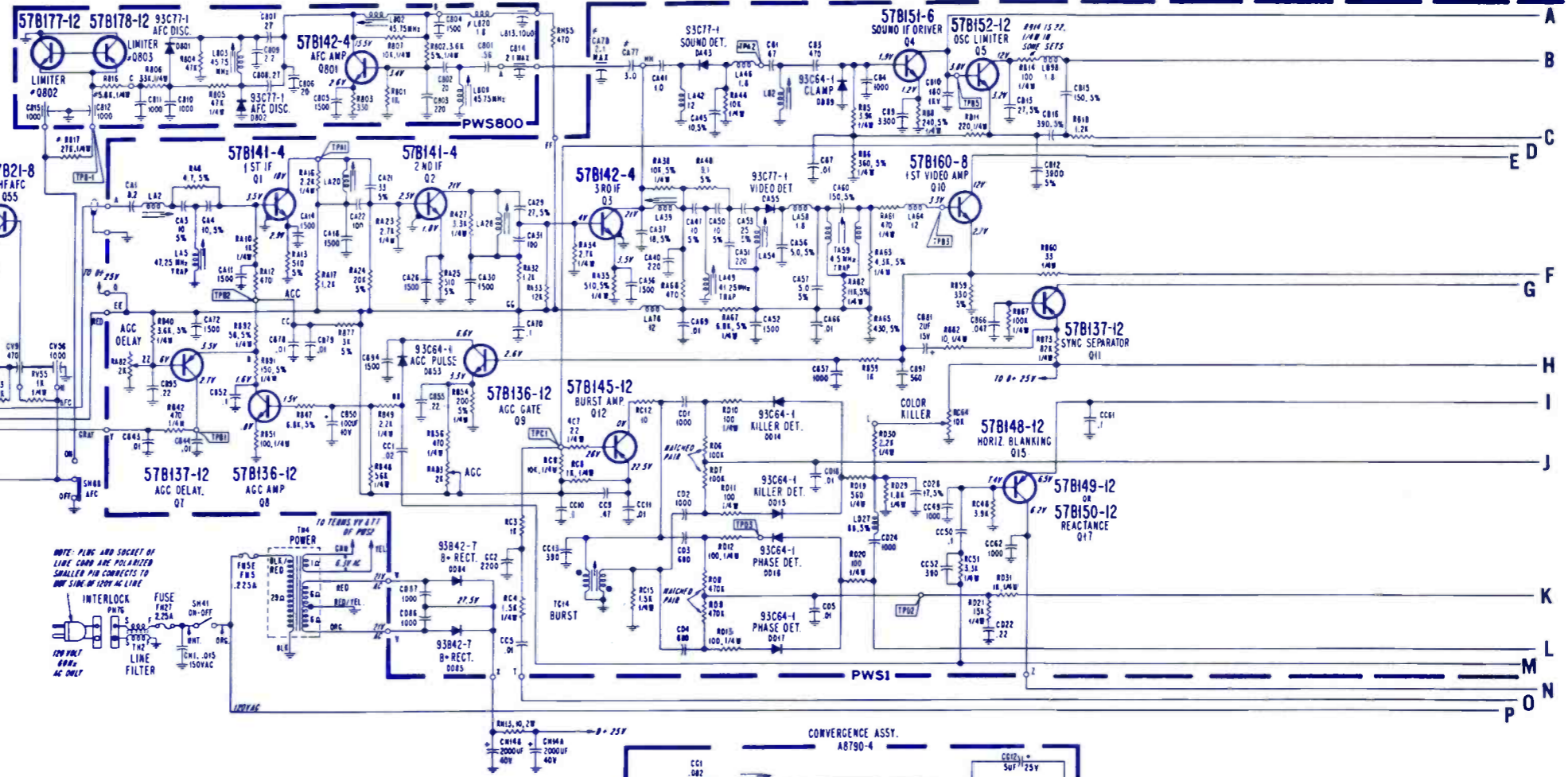
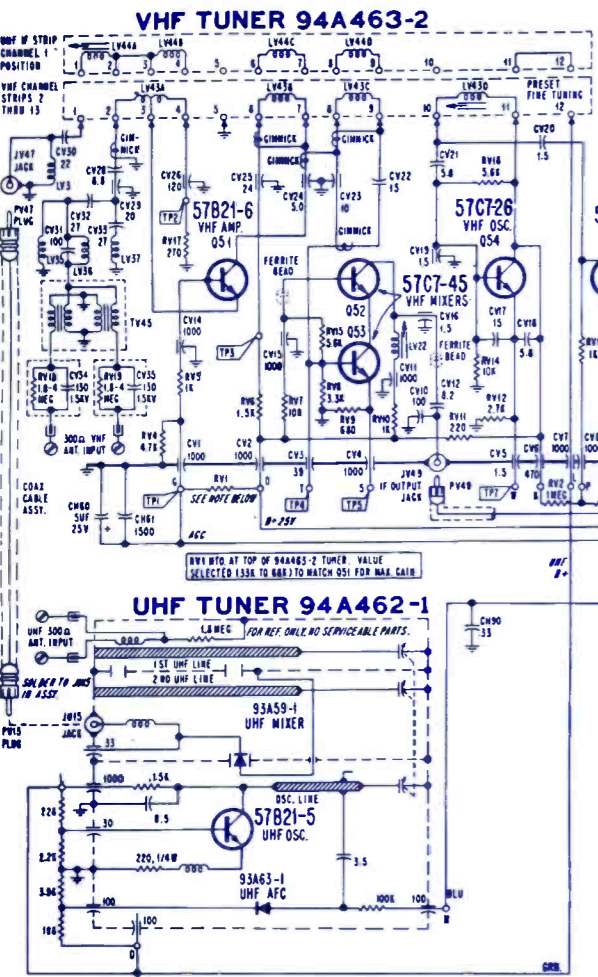
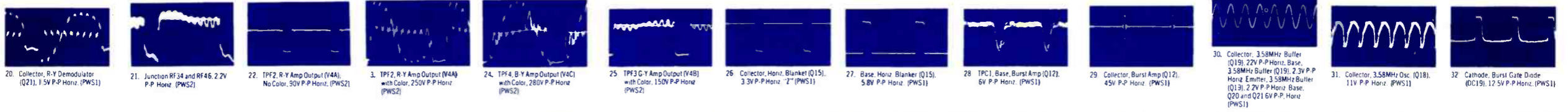
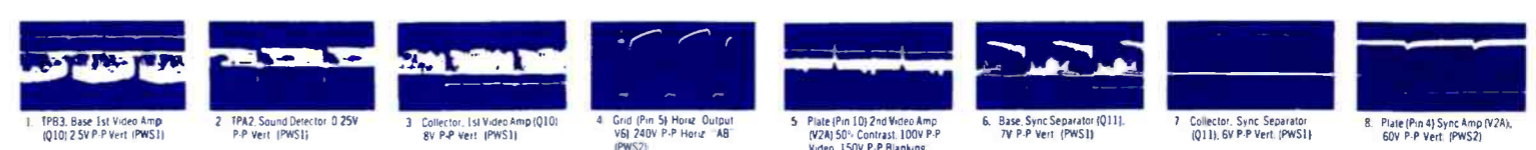
**NOTES:** UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS, 10% TOLERANCE, CAPACITANCE VALUES 1% HIGHER ARE IN P.P.  
 CAPACITANCE VALUES LESS THAN 1 ARE IN P.F., INDUCTANCE VALUES ARE IN M.H.,  $\omega$  INDICATES CYCLES PER SECOND.  
 ALL WIRELINES ARE WIRELINES WITH WIRE PLACED BETWEEN POINTS INDICATED BY A CHASSIS GROUND, LINE VOLTAGE SET AT 100V AC & ALL COMPONENTS SET FOR NORMAL PICTURE UNLESS OTHERWISE INDICATED. VOLTAGE READINGS MAY VARY WITHOUT SIGNAL, WITH WIRE TUNER SET AT ONE 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 DISCONNECTED FROM CHASSIS GROUND. DO NOT TURN SET ON WITH TRANSISTOR (S), TUBE(S) OR LEADS REACHED OR UNBUNDLED. DO NOT ARC AND SHORT LEAD TO CHASSIS GROUND. DISCONNECT TUBE AND ONLY TO PICTURE TUBE OR ON GND GROUND. USE CAUTION TO PREVENT ACCIDENTAL SHORT BETWEEN COMPONENT TERMINALS WITH CHASSIS GROUND. DO NOT APPLY EXCESSIVE HEAT TO TRANSISTOR LEADS, DO NOT USE AN ORDINARY QUANTITIES FOR RESISTANCE MEASUREMENTS, 1/2 WATT OR HIGHER RANGE OR INCHES.  
**WIRE NUMBER INDICATES CHANGE(S) INCORPORATED AS GIVEN UNDER THAT WIRE NUMBER, AS WELL AS ALL LOWER WIRE CHANGES.  
 ( ) SYMBOLS IN RESISTANCES INDICATE TEST POINT CONNECTIONS.  
 ( ) READINGS INDICATE BASELINE OBSERVATION LOCATIONS, CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOGRAPHS.**

**RUN CHANGES:**  
 (1) START OF PRODUCTION



# AIRLINE

## Color TV Model GAI-12915A



**NOTES:** UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, 10% TOL. CAPACITANCE VALUES 1% OR HIGHER ARE IN P.P.; CAPACITANCE VALUES LESS THAN 1 ARE IN P.F.; INDICATED VALUES ARE IN OHMS.  $\ominus$  INDICATES CHASSIS GROUND.  $\oplus$  INDICATES PHASES PER SECOND OR VOLTAGES ARE MEASURED WITH METER PLACED BETWEEN POINTS INDICATED BY CHASSIS GROUND. LINE VOLTAGE SET AT 100V AC IN ALL CASES. SET FOR NORMAL PICTURE UNLESS OTHERWISE INDICATED. VOLTAGE READINGS ARE TAKEN WITHOUT SIGNAL, WITH VHF TUNER SET ON UNUSED CHANNEL. VOLTAGES SHOWN IN BRACKETS ( ) ARE MEASURED WITH ACCELERATOR TUNED TO A COLOR SIGNAL.

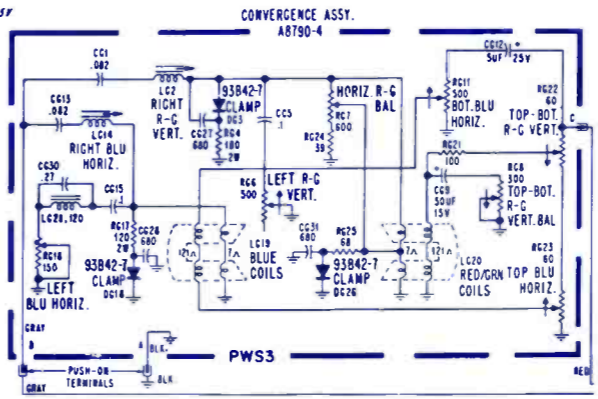
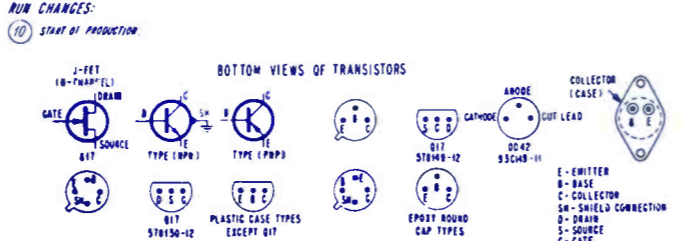
**WARNING:** CHASSIS IS CONNECTED DIRECTLY TO ONE SIDE OF AC POWER LINE. USE AN ISOLATION TRANSFORMER WHEN SERVICING TO AVOID THE POSSIBILITY OF ACCIDENTAL ELECTRICAL SHOCK & DAMAGE TO LIFE EQUIPMENT.

**TRANSISTOR CAUTION:** TO AVOID DAMAGE TO TRANSISTORS, DO NOT OPERATE CHASSIS WITH P.C. LINE OR DISCONNECTED FROM CHASSIS GROUND. DO NOT TOUCH SET OR WITH TRANSISTOR TEST POINTS OR LEADS REMOVED OR UNSOLDERED. DO NOT USE P.W. WEDGE LEAD TO CHASSIS GROUND. INSURE FUSE AND ONLY TO PICTURE TUBE GAS OR GAS (GAS) USE CAUTION TO PREVENT ACCIDENTAL SHORT BETWEEN COMPONENT TERMINALS ON TO CHASSIS GROUND. DO NOT APPLY EXCESSIVE HEAT TO TRANSISTOR LEADS. DO NOT USE AN ORDINARY DIAMETER FOR RESISTANCE MEASUREMENT. USE METER ON WIDE RANGE OF HIGH.

$\oplus$  AND NUMBER INDICATES CHANGE(S) INCORPORATED AS GIVEN UNDER THAT AND NUMBER, AS WELL AS ALL LOWER RUN CHANGES.

$\square$  SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

$\square$  HEADINGS IDENTIFY WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOGRAPHS.



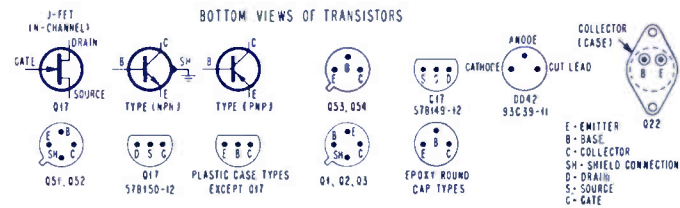
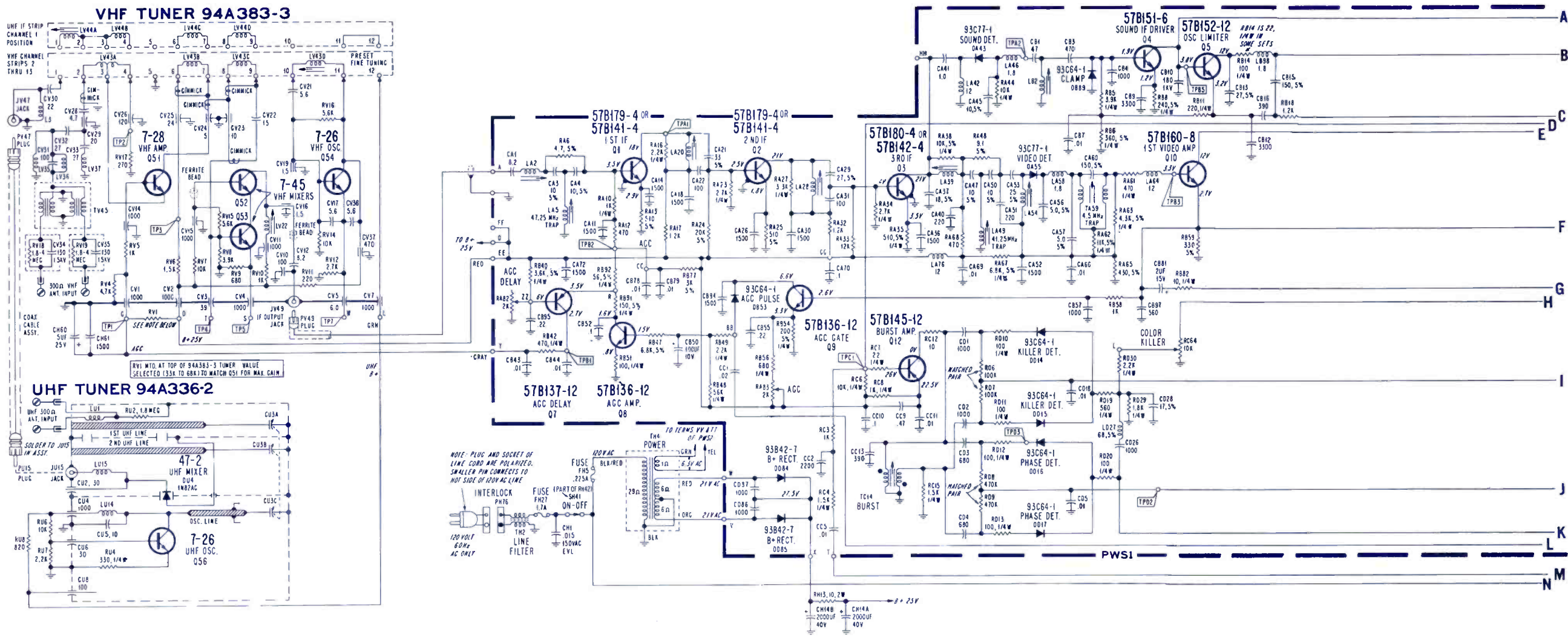
SYMBOL	DESCRIPTION	AIRLINE PART NO.	DESCRIPTION	AIRLINE PART NO.
CH10A	B		RH29 - 350 ohm contrast	75A198-3
C	D - 300mf/350v, 300mf/350v, 80mf/200v, 10mf/350v electro	67A15-415	RH34 - 500 ohm tint	75A198-2
CH14A	B - 2000mf/40v, 2000mf/40v electro	67A15-413	RH39 - 500 ohm color	75A198-2
RH150A	B - bleeder focus module	61A71-1	RH42 - 50K volume w/SH41	75A140-31
RA82	- 2K AGC delay	75A101-31	RH125 - 5M high voltage adj	75A135-57
RA83	- 2K AGC	75A101-31	RH149 - 30M focus adj	75A108-8
RC64	- 10K color kill	75A101-18	LA5 - coil 47.25MHz trap	72A316-12
RE54	- 3.4M vert size	75A95-18	LC16 - coil chroma take off	72A329-1
RE55	- 100K vert hold	75A95-18	LC34 - coil 47 UH 2nd bandpass	73A55-28
RE56	- 300K vert lin	75A95-18	LD52 - coil 1 UH 3.58MHz output	73A55-37
RH28	- 2K brite	75A198-4	LD63 - coil 10 UH demod	73A55-8
			LF24 - coil horiz adj	94A351-1
			MH57 - deflect yoke inc. PH49	94A571-2
			TA59 - xformer 4.5MHz trap	72A216-7
			TB20 - xformer ratio detect	72A318-1
			TC14 - xformer burst	72A325-3
			TC29 - xformer bandpass	72A327-1
			TH2 - xformer line choke	73A31-16
			TH4 - xformer power	80A108-14
			TH18 - xformer horiz output	79A169-3
			TH44 - xformer audio output	79A141-4
			TH73 - xformer vert output	79A165-1
			FH5 - fuse .225a chemical	84A28-12
			FH27 - fuse .225a chemical	84A28-16
			tuner UHF	94A462-1
			tuner VHF	94A463-2





# AIRLINE

Color TV Model  
GAI-12103B



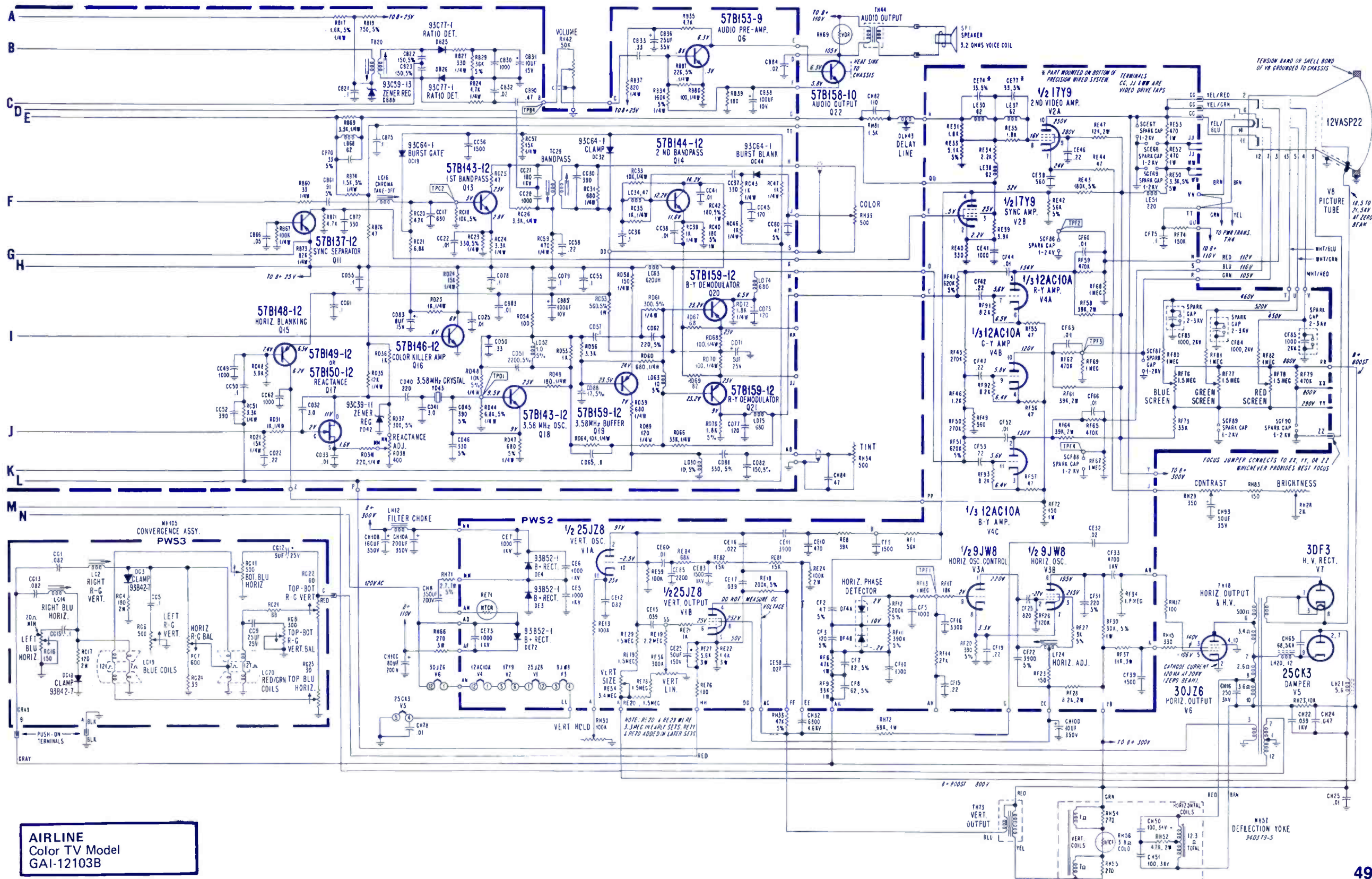
**NOTES:** UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, 10%, 1/2 WATT; CAPACITANCE VALUES 1 OR HIGHER ARE IN PF.; CAPACITANCE VALUES LESS THAN 1 ARE IN UF.; INDUCTANCE VALUES ARE IN MH.  $\approx$  INDICATES CHASSIS GROUND.  $\mu$  INDICATES CYCLES PER SECOND. DC VOLTAGES ARE MEASURED WITH VTVM PLACED BETWEEN POINTS INDICATED A CHASSIS GROUND. LINE VOLTAGE SET AT 120V AC AT ALL CONTROLS SET FOR NORMAL PICTURE UNLESS OTHERWISE INDICATED. VOLTAGE READINGS ARE TAKEN WITHOUT SIGNAL, WITH VHF TUNER SET AT UNDESIRABLE 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 DAC DISCONNECTED FROM CHASSIS GROUND. DO NOT TOUCH SET OR WITH TRANSISTOR 1ST. TUBE 1ST OR LEADS REMOVED OR UNSOLDERED. DO NOT AGC 2ND ANODE LEAD TO CHASSIS GROUND. DISCHARGE 2ND ANODE ONLY TO PICTURE TUBE DAC OR DAC GROUND. USE CAUTION TO PREVENT ACCIDENTAL SHORTS BETWEEN COMPONENT TERMINALS OR TO CHASSIS GROUND. DO NOT APPLY EXCESSIVE HEAT TO TRANSISTOR LEADS. DO NOT USE AN ORDINARY OMMETER FOR RESISTANCE MEASUREMENT, USE VTVM OR  $\mu$ 100 RANGE OR HIGHER.

SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.  
HEXAGONS IDENTIFY WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOGRAPHS.

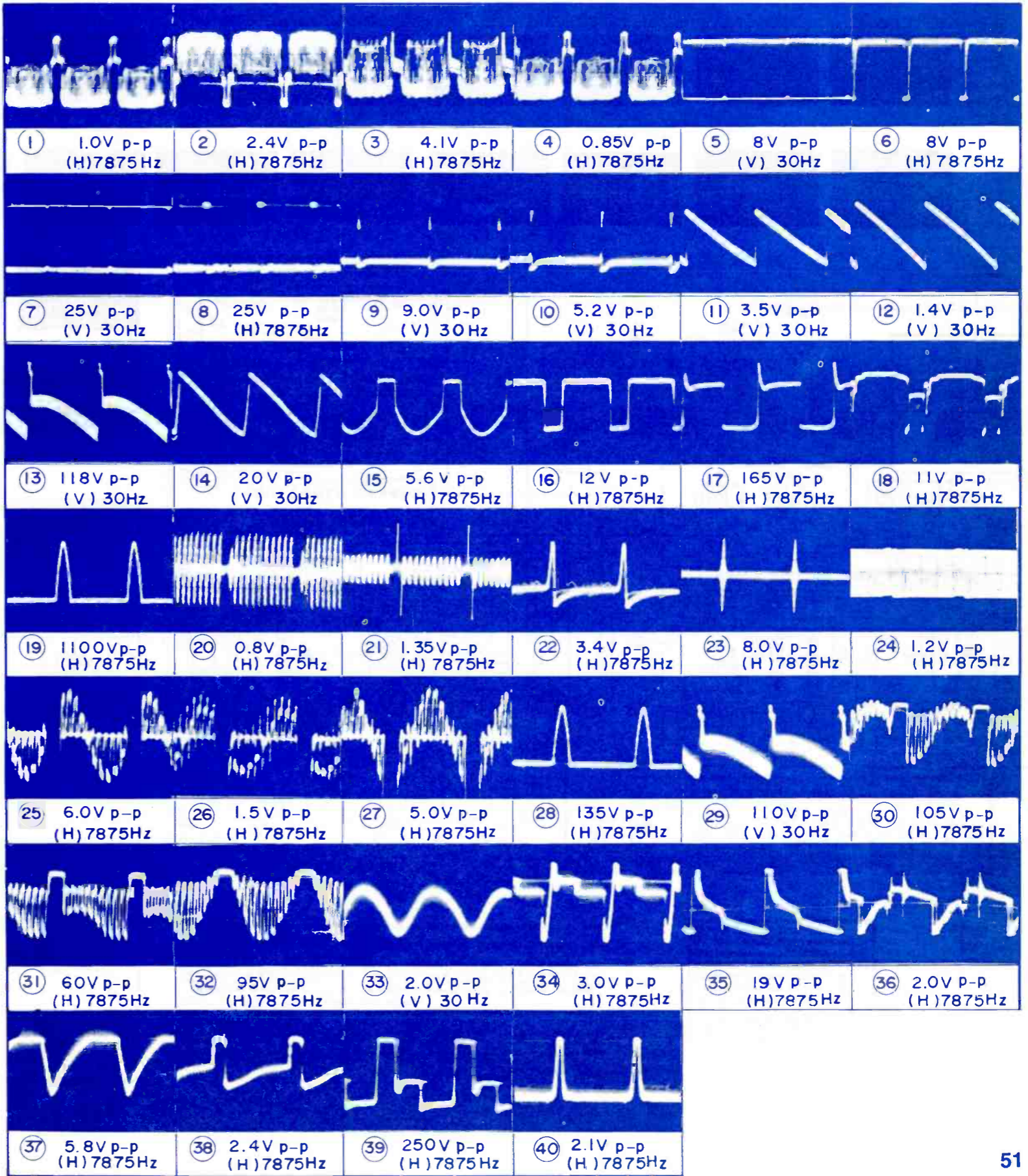
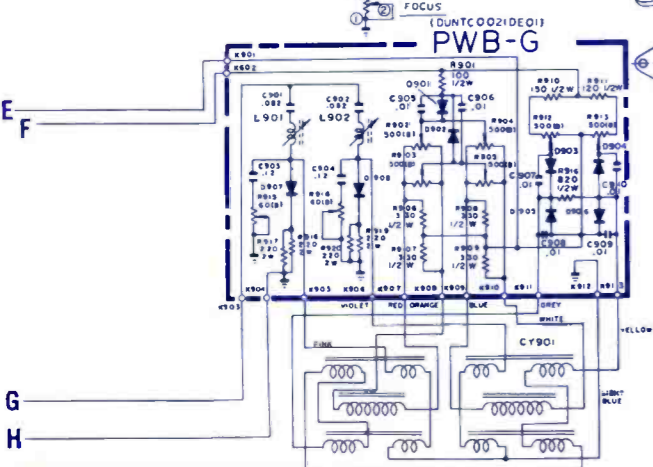
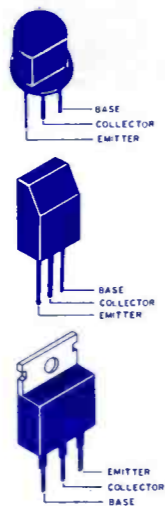
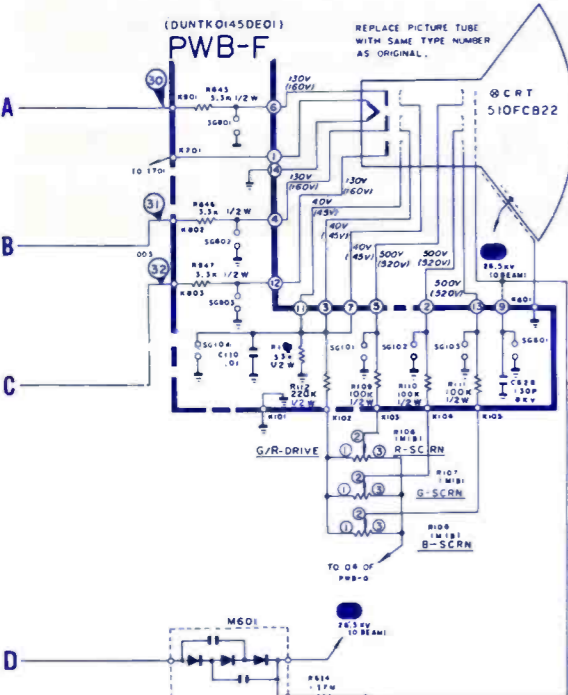
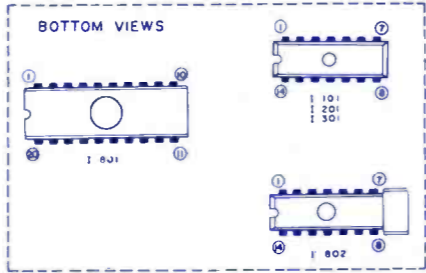
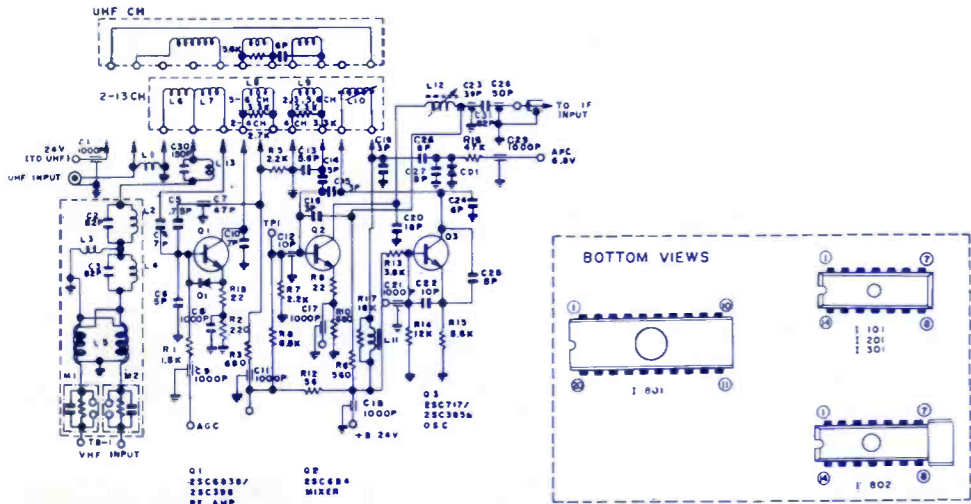
SYMBOL	DESCRIPTION	AIRLINE PART NO.
CH10A, B,		
C, D	200 $\mu$ f/350v, 160 $\mu$ f/350v, 80 $\mu$ f/200v	
	10 $\mu$ f/350v elect.	67A15-403
CH14A, B	2000 $\mu$ f/40v, 2000 $\mu$ f/40v, elect	67A15-413
	therm NTC	61A57-6
RH69	VDR	61A46-7
RA82	2K AGC delay	75A101-31
RA83	2K AGC	75A101-31
RC64	10K color kill	75A101-18
RE54	3.4 M vert size	75A107-4
RE56	300K vert lin	75A107-4
RF76	1.5M blue screen	75A95-17
RF77	1.5M green screen	75A95-17
RF78	1.5M red screen	75A95-17
RH28	2K brite	75A140-1
RH29	350n contrast	75A140-3
RH30	100K vert hold	75A140-2
RH34	500n tint	75A141-3
RH39	500 $\Omega$ color	75A141-3
SH41	50K on/off volume	75A141-7
LA5	coil 47.25MHz trap	72A316-12
LA49	coil 41.25MHz trap	72A316-12
LC16	coil chroma take-off	72A329-1
LC34	coil 47 $\mu$ h 2nd band pass	73A55-28
LD52	coil 1 $\mu$ h 3.58MHz output	73A55-37
LF24	coil horiz adj	94A351-1
LH12	coil filter choke	74A30-5
MH57	deflect yoke	94A379-5
TA59	x-former 4.5MHz trap	72A216-7
TB20	x-former ratio detect	72A318-1
TC14	x-former burst	72A325-3
TC29	x-former bandpass	72A327-1
TH2	x-former line choke	73A31-16
TH4	x-former power	80A108-9
TH18	x-former horiz output	79A158-2
TH44	x-former audio output	79A141-1
TH73	x-former vert output	74A131-1
	fuse .225A chemical	84A28-12
	fuse 1.7A chemical	84A28-6
	tuner VHF	94A383-3
	tuner UHF	94A336-2



**AIRLINE**  
Color TV Model  
GAI-12103B



# VHF TUNER ASSEMBLY



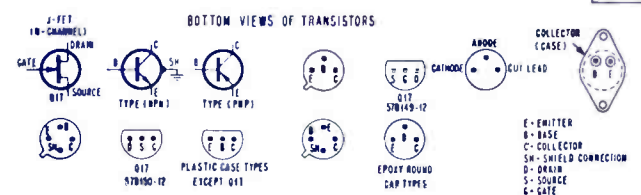
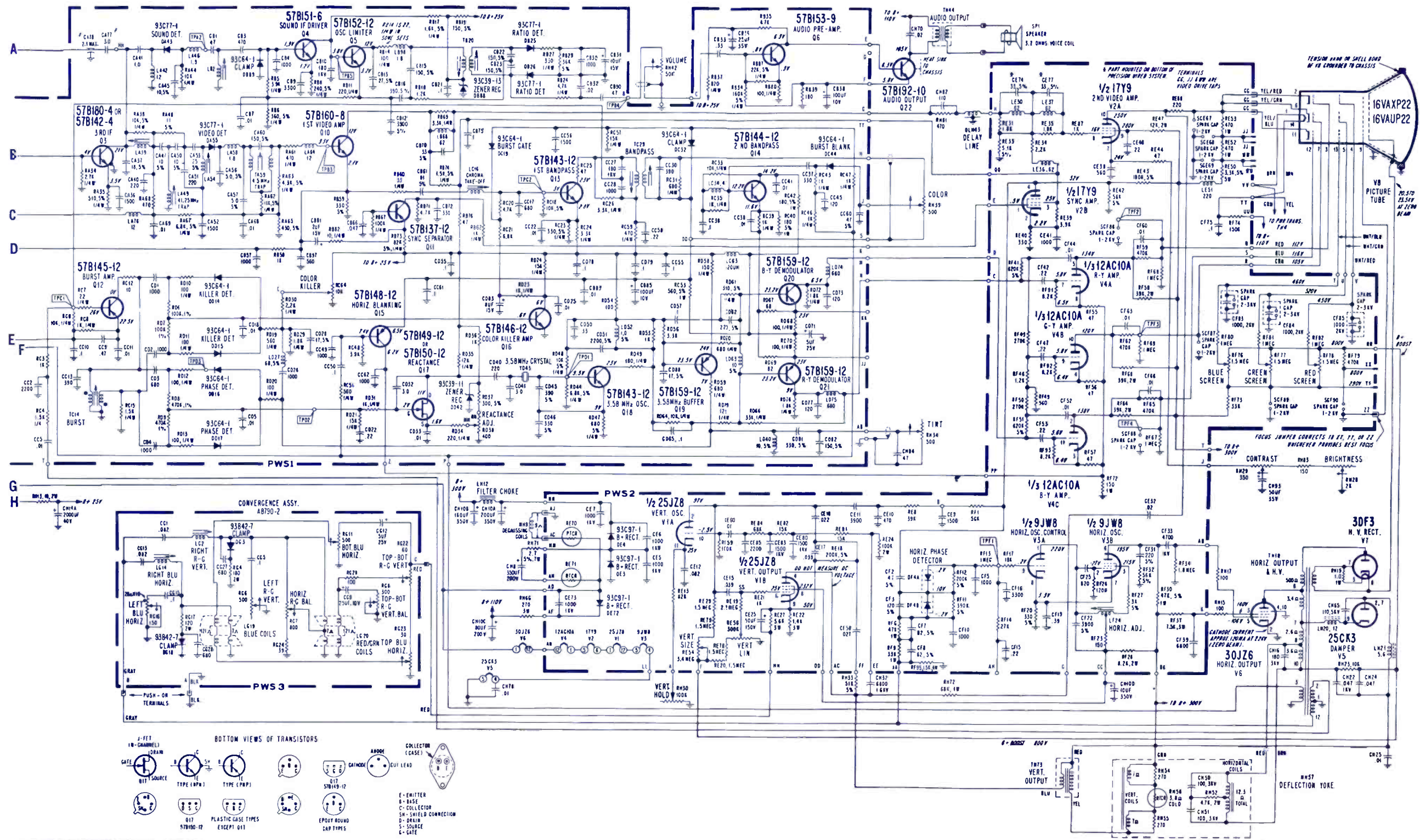
AIRLINE  
Color TV Model  
GEN 12985B



**SYMBOL DESCRIPTION AIRLINE PART NO.**

CH10A,B,C,D — 200mf/350v, 100mf/350v, 80mf/200v, 10mf/350v, elect	.....	67A15-403
CH14A,B — 200mf/40v, 2000mf/40v, elect	.....	67A15-413
RA82 — 2K, AGC delay	.....	75A101-31
RA83 — 2K, AGC	.....	75A101-31
RC64 — 10K, color kill	.....	75A101-18
RE54 — 3.4M, vert size	.....	75A107-4
RE56 — 300K, vert lin	.....	75A107-4
RF76 — 1.5M, blue screen	.....	75A95-17
RF77 — 1.5M, green screen	.....	75A95-17
RF79 — 1.5M, red screen	.....	75A95-17
RH28 — 2K, brightness	.....	75A140-25
RH29 — 350 ohm, contrast	.....	75A140-26
RH30 — 100K, vert hold	.....	75A140-27
RH34 — 500 ohm, tint	.....	75A206-6
RH39 — 500 ohm, color	.....	75A206-6

RH42, — 50K, vol w/on-off switch	.....	75A206-5
LB2 — coil, 4.5MHz	.....	72A317-1
LC16 — coil, chroma takeoff	.....	72A329-1
LF24 — coil, horiz adjust	.....	94A351-1
MH57 — deflect yoke	.....	94A379-13
TA59 — x-former, 4.5MHz trap	.....	72A216-7
TB20 — x-former, ratio detect	.....	72A318-1
TC14 — x-former, burst	.....	72A325-3
TC29 — x-former, bandpass	.....	72A327-1
TH4 — x-former, power	.....	80A108-14
TH18 — x-former, horiz output	.....	79A158-3
TH44 — x-former, audio output	.....	79A141-4
TH73 — x-former, vert output	.....	74A185-1
FH5 — fuse, 225a (chemical)	.....	84A28-12
FH27 — fuse, 1.7a (chemical)	.....	84A28-6
tuner, VHF	.....	94A463-2
tuner, UHF	.....	94A462-1



**AIRLINE**  
Color TV Model  
GAI-12635A

# AIRLINE

Color TV Model  
GAI-12335A

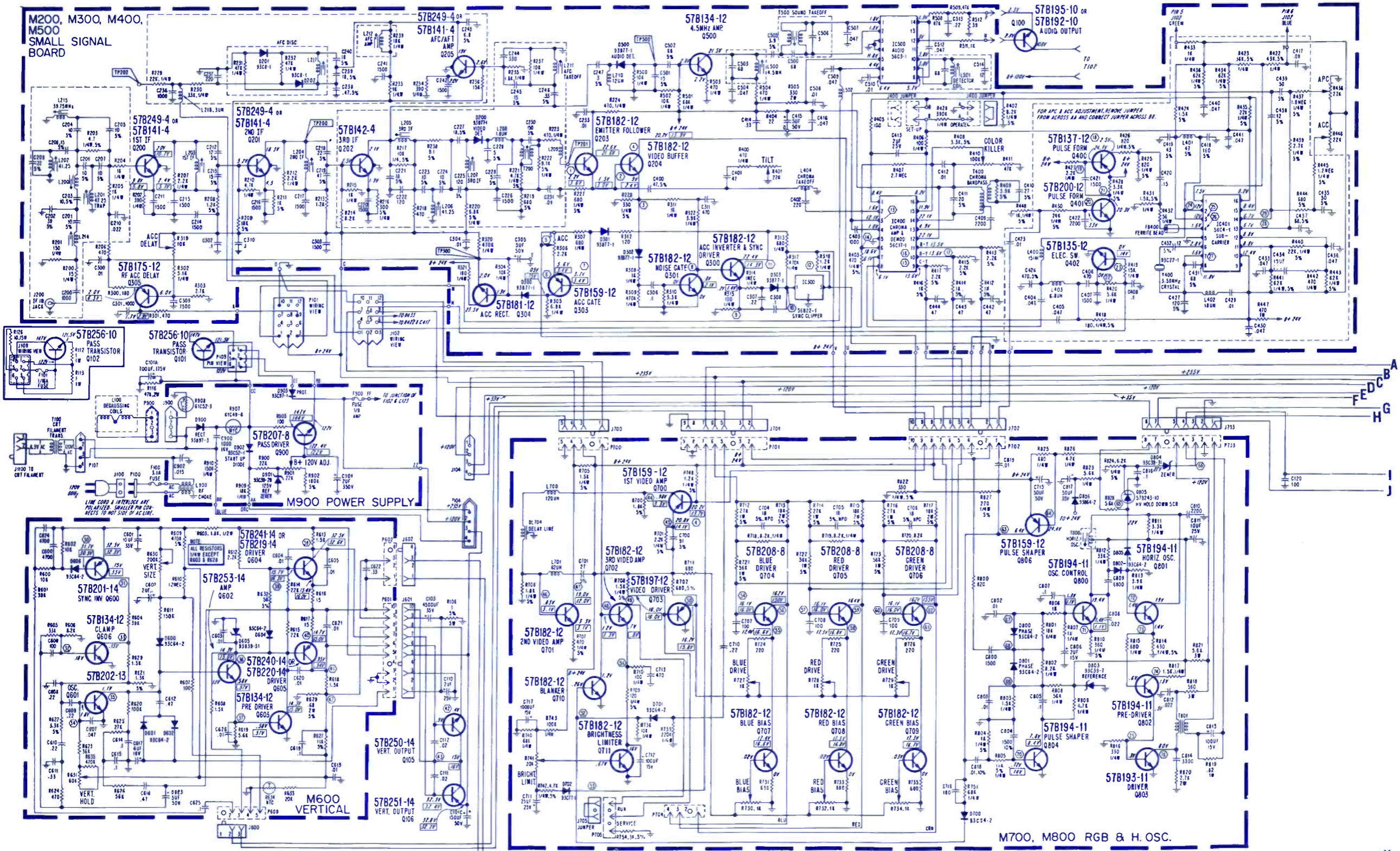
## ELECTRICAL SPECIFICATIONS

POWER INPUT ..... 120 Volts, 60 Hz  
 POWER CONSUMPTION ..... 150 Watts Total  
 PICTURE SIZE ..... Approximately 90 sq. in.  
 FOCUS LENS ..... Bipotential  
 SWEEP DEFLECTION ..... Magnetic  
 CONVERGENCE ..... Magnetic  
 PIN CUSHION CORRECTION ..... Dynamic  
 AUDIO POWER OUTPUT RATING ..... 2 Watts Max.  
 SPEAKER ..... 3" x 3", 0.68 oz., Magnet  
 VOICE COIL IMPEDANCE ..... 3.2 Ohms at 200 Hz  
 ANTENNA INPUT IMPEDANCE ..... 300 Ohm Balanced

TELEVISION RF FREQUENCY RANGE:  
 All 12 VHF Channels ..... 54 MHz to 88 MHz  
 and 174 MHz to 216 MHz  
 Any of 70 UHF Channels ..... 470 MHz to 890 MHz

INTERMEDIATE FREQUENCIES:  
 Picture IF Carrier Frequency ..... 45.75 MHz  
 Sound IF Carrier Frequency ..... 41.25 MHz  
 Color Subcarrier Frequency ..... 42.17 MHz (Nominal)

SYMBOL	DESCRIPTION	AIRLINE PART NO.		
R306	2.2K AGC	75A199-1	T200	xformer, 4.5MHz trap
R319	10K AGC delay	75A199-2	T400	xformer, chroma bandpass
R401	22K, tilt	75A199-3	T500	xformer, 4.5MHz sound take-off
R410	100K, color kill	75A199-4	R741	20K, brite limit
L404	coil, chroma take-off	73A135-3	T800	xformer, horiz osc adj
L500	coil, sound quad	72A329-4	R630	200K, vert size
L501	coil, sound detect	72A329-4	R631	60K, vert hold
			1C1000	1C, +24v regulator
			F1000	fuse, 1.5a
				72A216-8
				73A137-1
				72A318-6
				75A101-47
				94A351-3
				75A101-28
				75A191-2
				56A21-1
				36201-5



# OSCILLOSCOPE WAVEFORM INFORMATION

Oscilloscope waveform patterns shown have been taken at important observation points throughout the television chassis. Voltage given for each waveform observation point is in peak-to-peak voltage.

All waveforms were taken with a wideband scope using a low capacity probe to prevent loading.

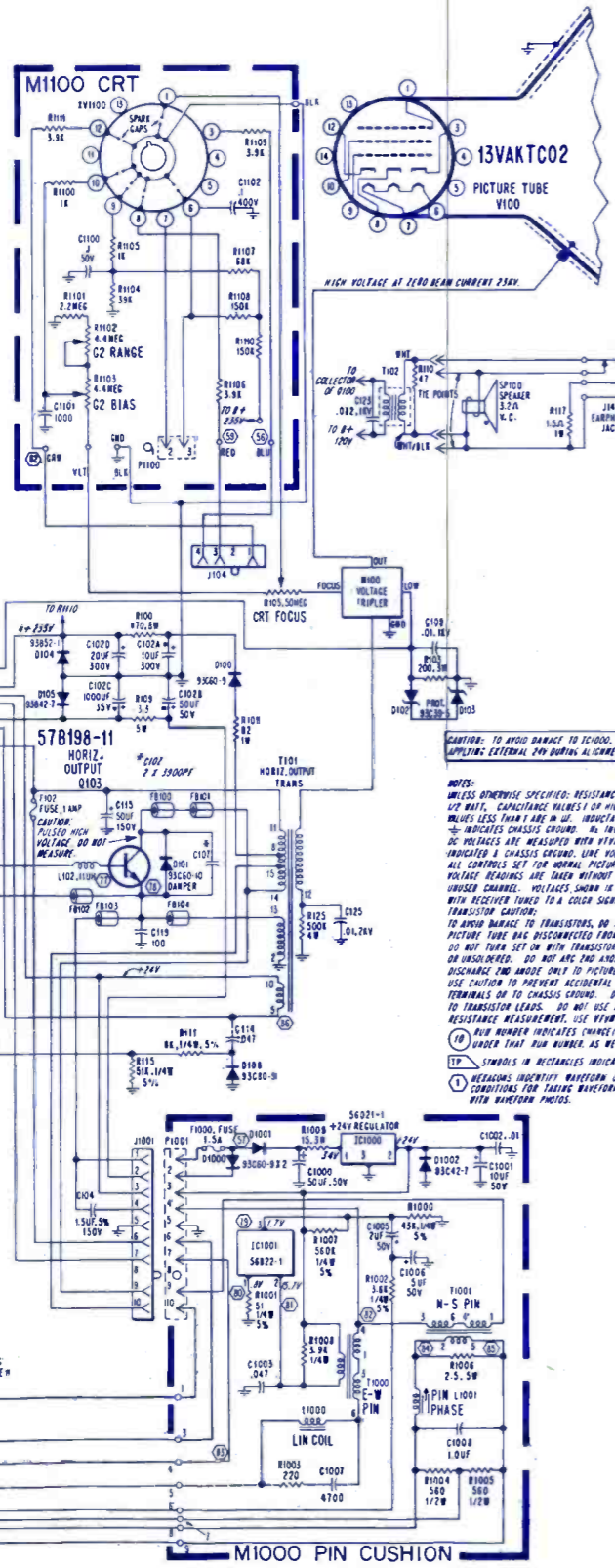
Waveforms taken with a standard color bar generator with the color control set to 100% or normal.

Receiver was adjusted with the AGC control for a 1 volt peak-to-peak waveform at TP201 using the standard color bar generator as the signal source. This corresponds to a 2 volt peak-to-peak

video waveform from an off-the-air station signal. The difference in signal amplitude is due to the lack of luminance information in the color bar signal when switched to the color bar pattern. All receiver controls set for normal picture.

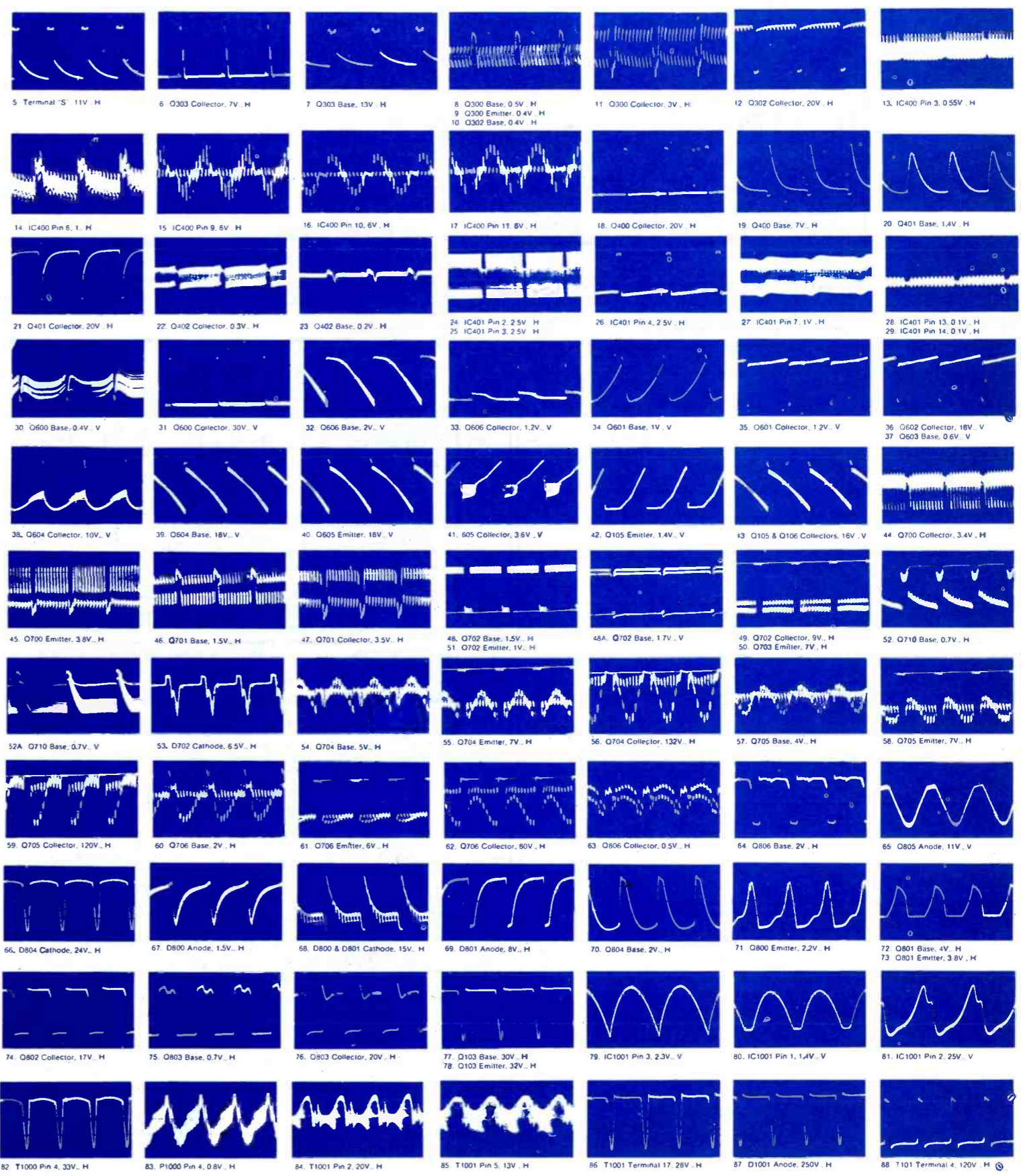
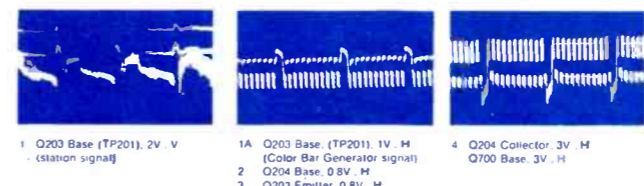
Oscilloscope sweep was set at 30 Hertz or V position for vertical waveforms, and 7.875 Hertz or H position for horizontal and chroma waveforms.

Shape of waveforms should resemble those given, depending upon bandwidth of oscilloscope used. Peak-to-peak voltages may vary, depending on calibration of test equipment, chassis parts tolerances and control settings.



## 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.



**CAUTION:** TO AVOID DAMAGE TO IC-1000, DISCONNECT SOCKET J1001 WHEN APPLYING EXTERNAL 24V DURING ALIGNMENT OR SERVICING WITH SET TURNED ON.

**NOTES:** UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, 10% TOL. CAPACITANCE VALUES LESS THAN 100P ARE IN PICO. CAPACITANCE VALUES LESS THAN 100N ARE IN NANO. INDUCTANCE VALUES ARE IN MICRO. DC VOLTAGES ARE MEASURED WITH HTVM PLACED BETWEEN POINTS INDICATED & CHASSIS GROUND, LINE VOLTAGE SET AT 120VAC & ALL CONTROLS SET FOR NORMAL PICTURE UNLESS OTHERWISE INDICATED. VOLTAGE READINGS ARE TAKEN WITHOUT SIGNAL, WITH TUNER SET TO UNUSUAL CHANNEL. VOLTAGES SHOWN IN BOX ARE MEASURED WITH RECEIVER TUNED TO A COLOR SIGNAL.

**TRANSISTOR CAUTION:** TO AVOID DAMAGE TO TRANSISTORS, DO NOT OPERATE CHASSIS WITH PICTURE TUBE BAG DISCONNECTED FROM CHASSIS GROUND. DO NOT TUNE SET OR WITH TRANSISTORS, TUBES OR LEADS REMOVED OR UNSOLDERED. DO NOT APPLY 2ND ANODE LEAD TO CHASSIS GROUND. DISCHARGE 2ND ANODE ONLY TO PICTURE TUBE BAG OR BAG 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 SCREWDRIVER FOR RESISTANCE MEASUREMENT. USE VFM ON R-X100 RANGE OR HIGH-R.

**RUN NUMBER INDICATES CHANGES INCORPORATED AS GIVEN UNDER THAT RUN NUMBER, AS WELL AS ALL LOWER RUN CHANGES.**

**TP** SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

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

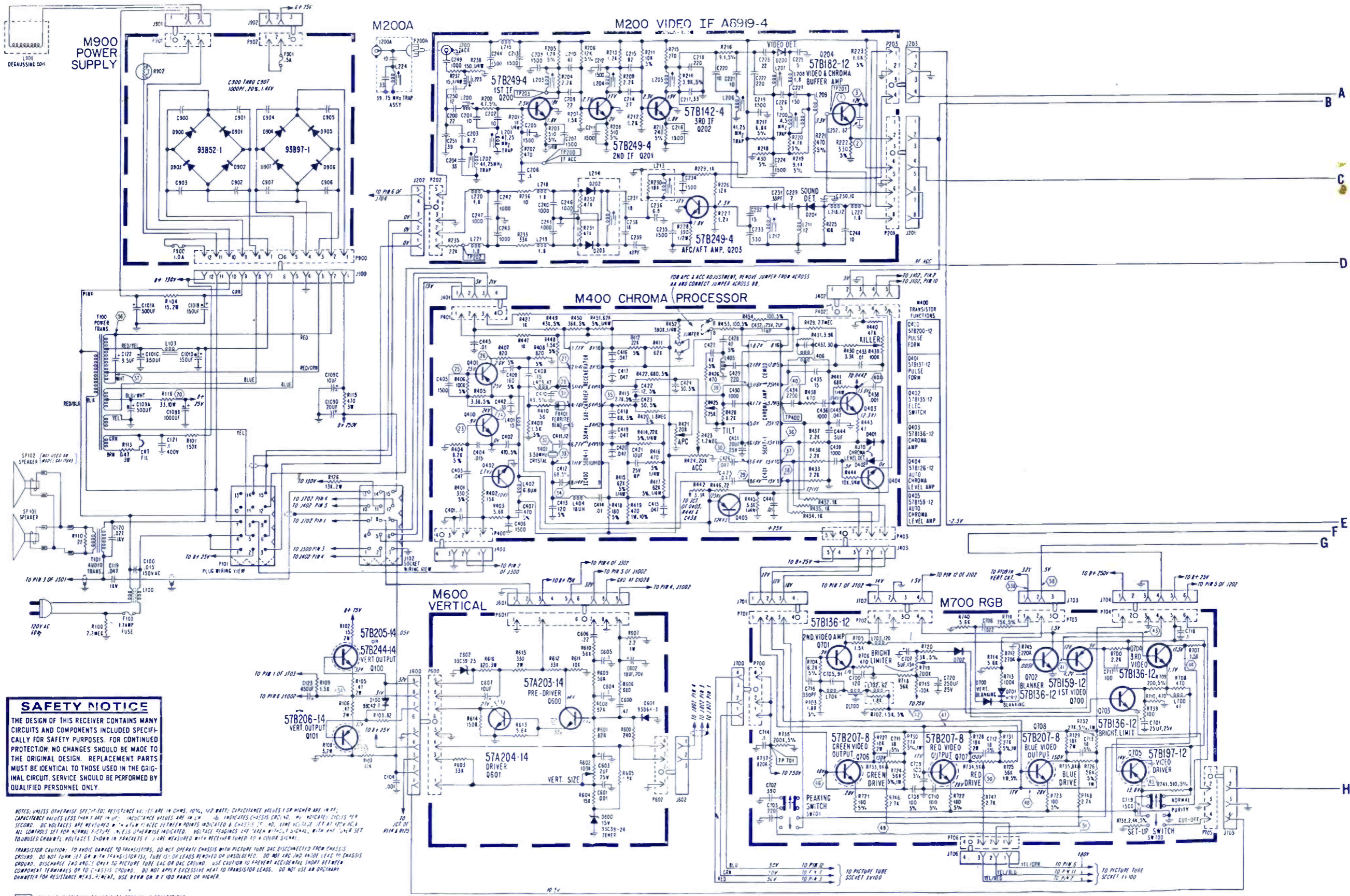
**AIRLINE**  
Color TV Model  
GAI-12335A

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# AIRLINE

Color TV Models  
GAI-17825C/  
45B



**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.

**TRANSISTOR CAUTION:** TO AVOID DAMAGE TO TRANSISTORS, DO NOT OPERATE CHASSIS WITH PICTURE TUBE GAC DISCONNECTED FROM CHASSIS GROUND. DO NOT TURN SET ON WITH TRANSISTORS, TUBE SIDEL EADS REMOVED OR UNSOLDERED. DO NOT ARC AND ANODE LEAD TO CHASSIS GROUND. DISCHARGE AND ANODE ONLY TO PICTURE TUBE GAC OR GND. 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 IMPROPER DIAMETER FOR RESISTANCE REPAIRS. REPAIR, USE VERNER OR #100 RANGE OR HIGHER.

TP SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.  
 WAVEFORMS IDENTIFY WAVEFORM OBSERVATION LOCATIONS. CONDITIONS FOR TAKING WAVEFORM MEASUREMENTS ARE GIVEN WITH WAVEFORM PHOTOS.



# AIRLINE Color TV Models GAI-12936A/46A

SYMBOL	DESCRIPTION	AIRLINE PART NO.
R306	— 2.2K, AGC	75A199-1
R319	— 10K, AGC delay	75A199-2
R401	— 22K, tilt	75A199-3
R410	— 100K, color kill	75A199-4
R438	— 22K, APC	75A199-5
R446	— 22K, ACC	75A199-3
L206	— coil, 41.25MHz trap	72A316-12
L404	— coil, chroma take-off	73A135-3

L500	— coil, sound quad	72A329-4
T200	— xformer, 4.5MHz trap	72A216-8
T400	— xformer, chroma bandpass	73A137-1
T500	— xformer, 4.5MHz sound take-off	72A318-6
R741	— 20K, brite limit	75A101-47
T800	— xformer, horiz osc adj	94A351-3
T801	— xformer, horiz drive	79A167-2
R901	— 22K, B+ 120v, adj	75A199-3
F900	— fuse, 1.5a	36201.5
R630	— 200K, vert size	75A101-28
R631	— 60K, vert hold	75A191-2

### OSCILLOSCOPE WAVEFORM INFORMATION

Oscilloscope waveform patterns shown have been taken at important observation points throughout the television chassis. Voltage given for each waveform observation point is in peak-to-peak voltage.

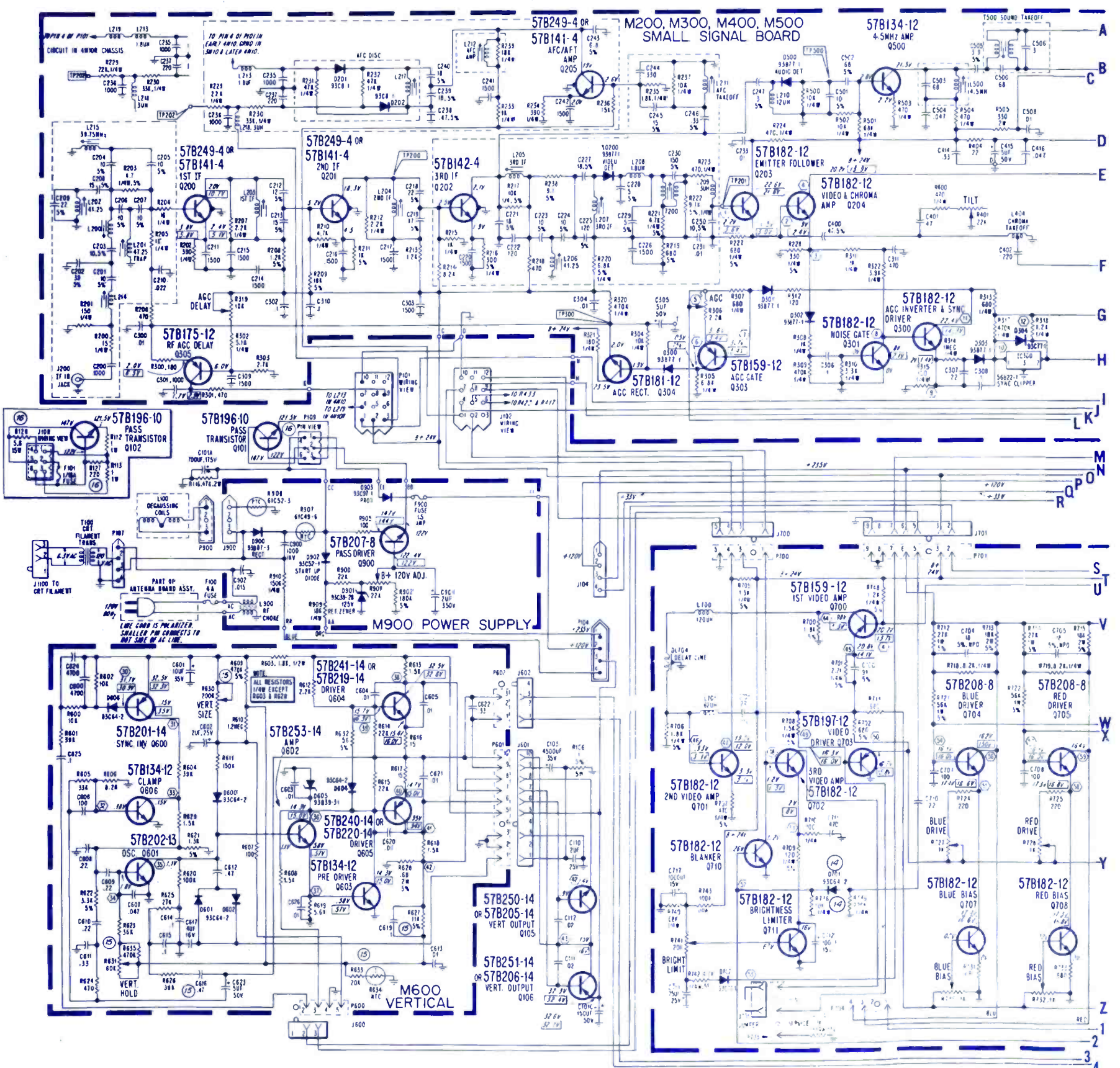
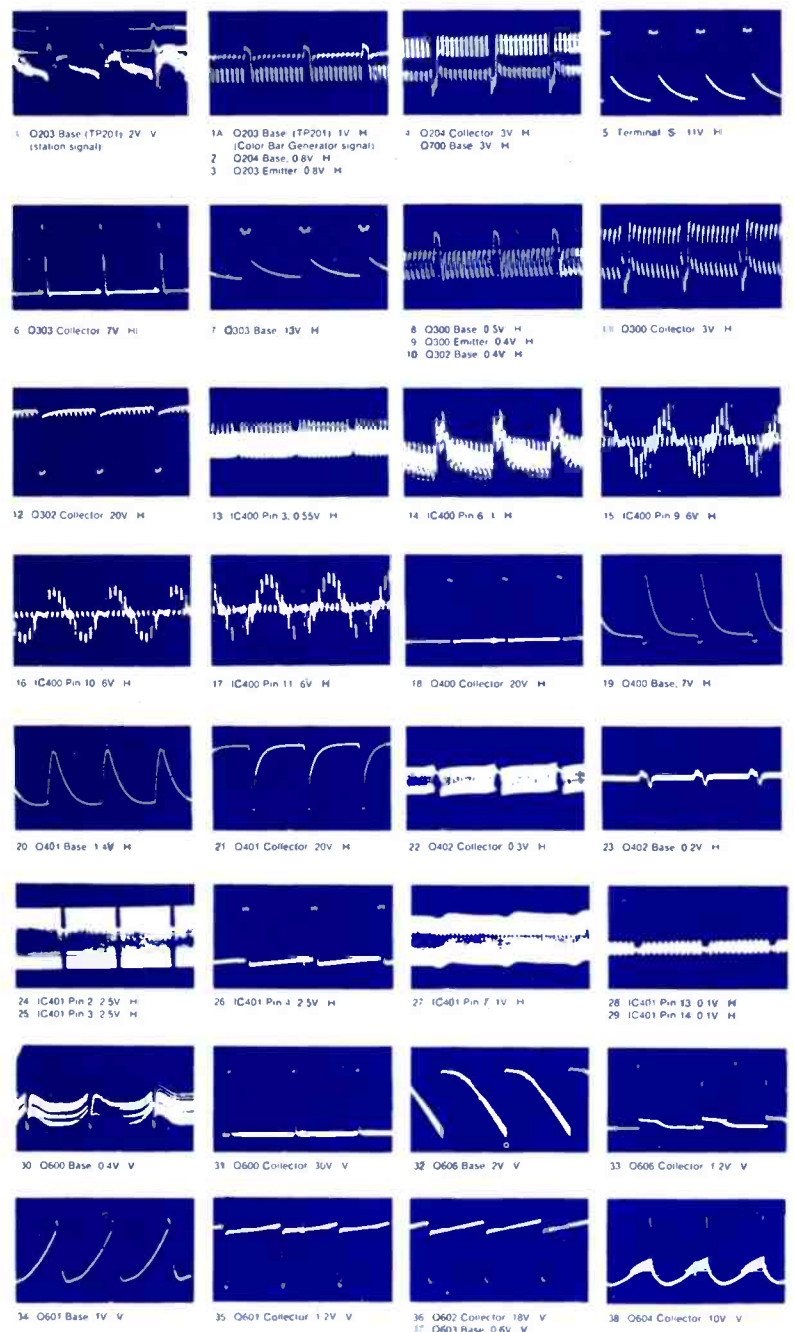
All waveforms were taken with a wideband scope using a low capacity probe to prevent loading.

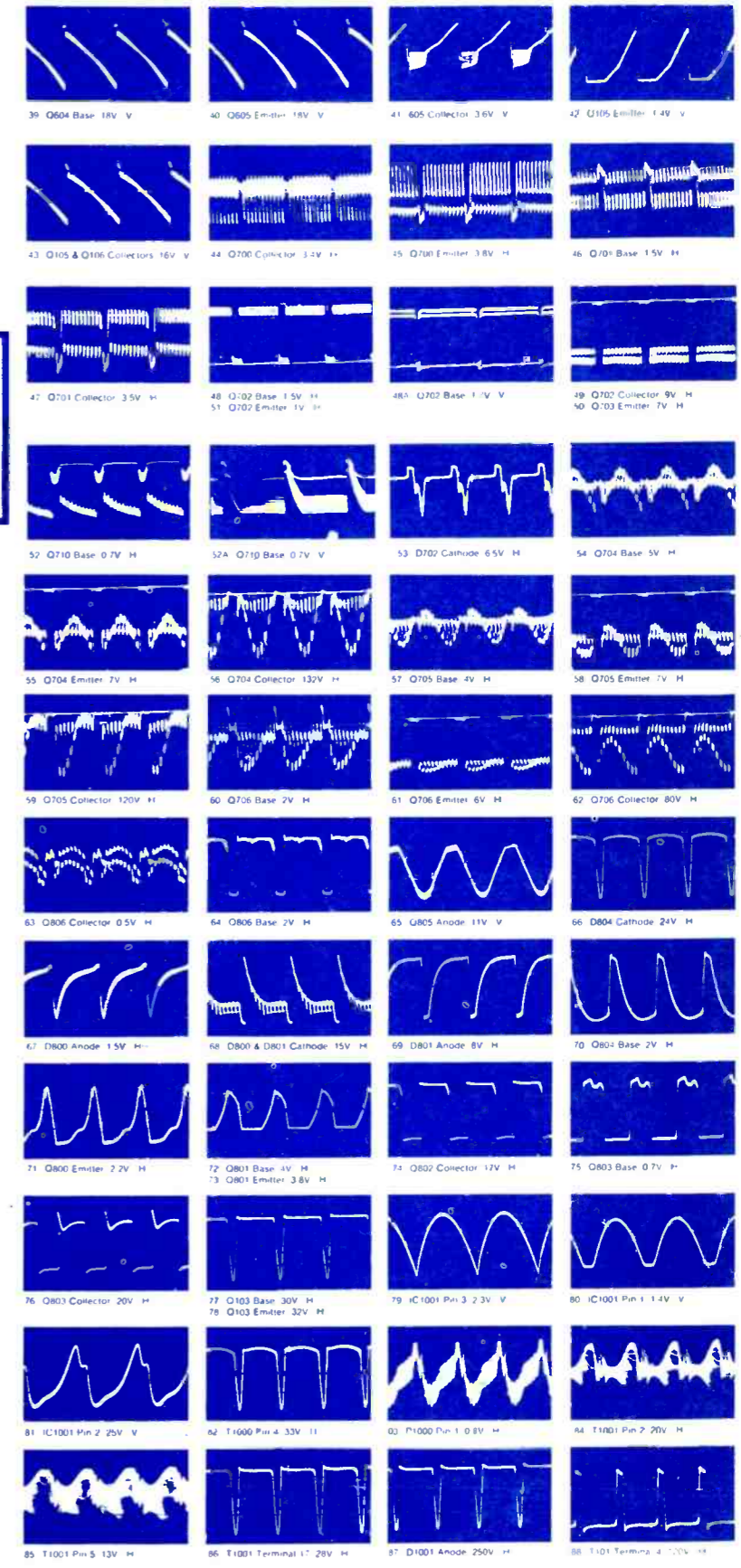
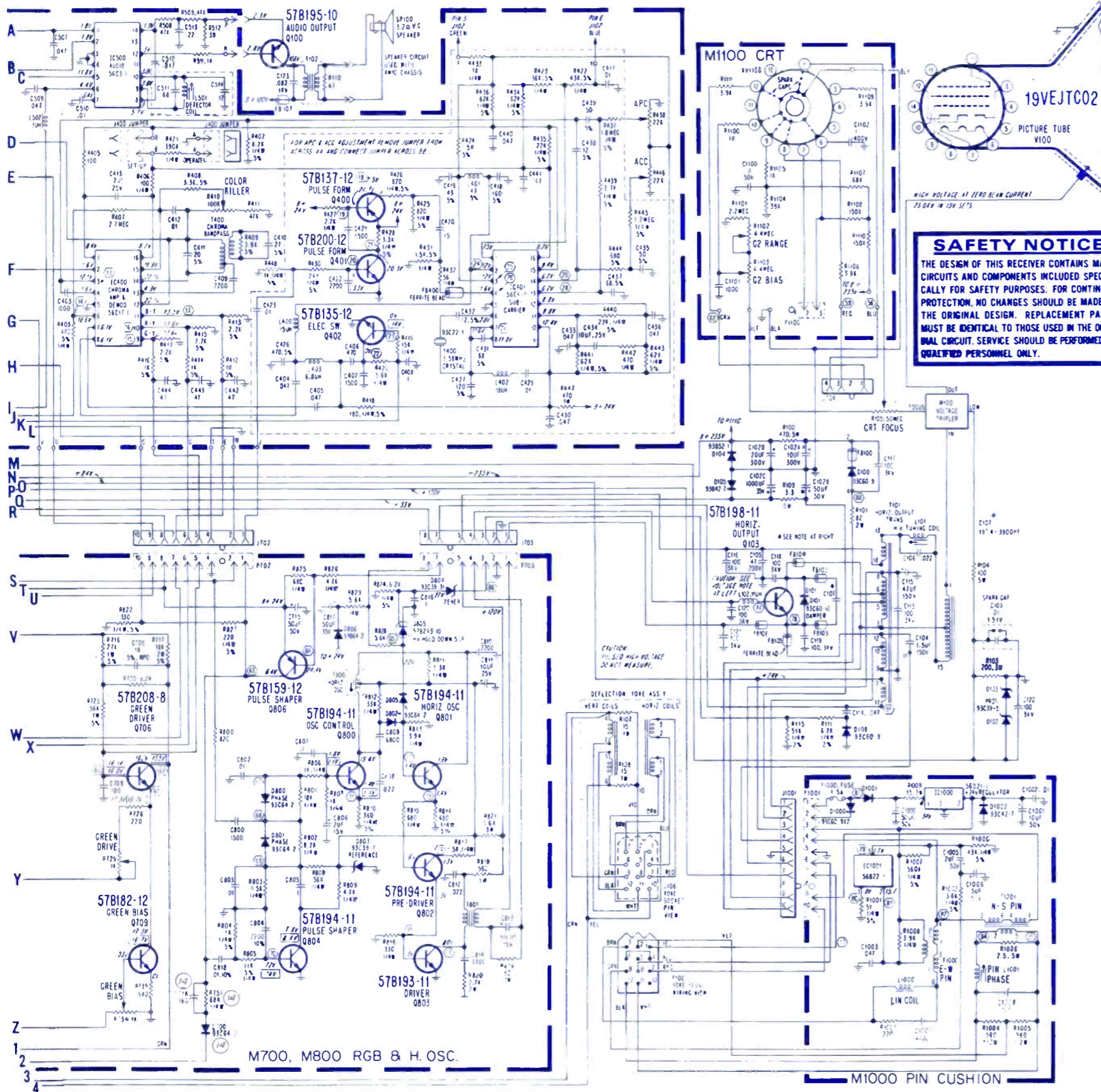
Waveforms taken with a standard color bar generator with the Receiver adjusted with the AGC control for a 1 volt peak-to-peak waveform at TP-301 using the standard color bar generator as the signal source. This corresponds to a 2 volt peak-to-peak

video waveform from an off-the-air station signal. The difference in signal amplitude is due to the lack of luminance information in the color bar signal when switched to the color bar pattern. All receiver controls set for normal picture.

Oscilloscope sweep was set at 40 Hertz or V position for vertical waveforms, and 200 Hertz or H position for horizontal and chroma waveforms.

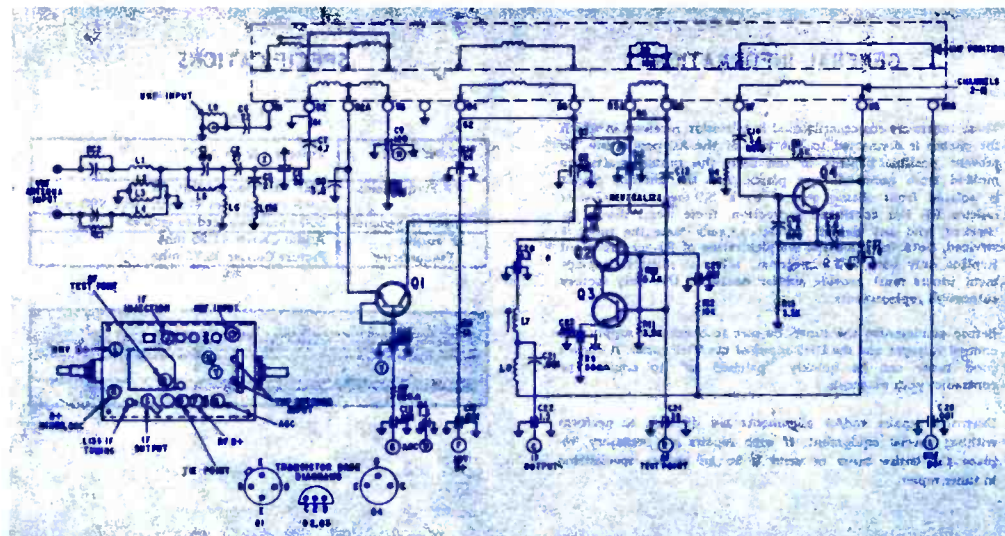
Shape of waveforms should resemble those given, depending upon bandwidth of oscilloscope used. Peak-to-peak voltages may vary, depending on calibration of test equipment, chassis parts tolerances and control settings.





**AIRLINE**  
 Color TV Models  
 GAI-12936A/46A

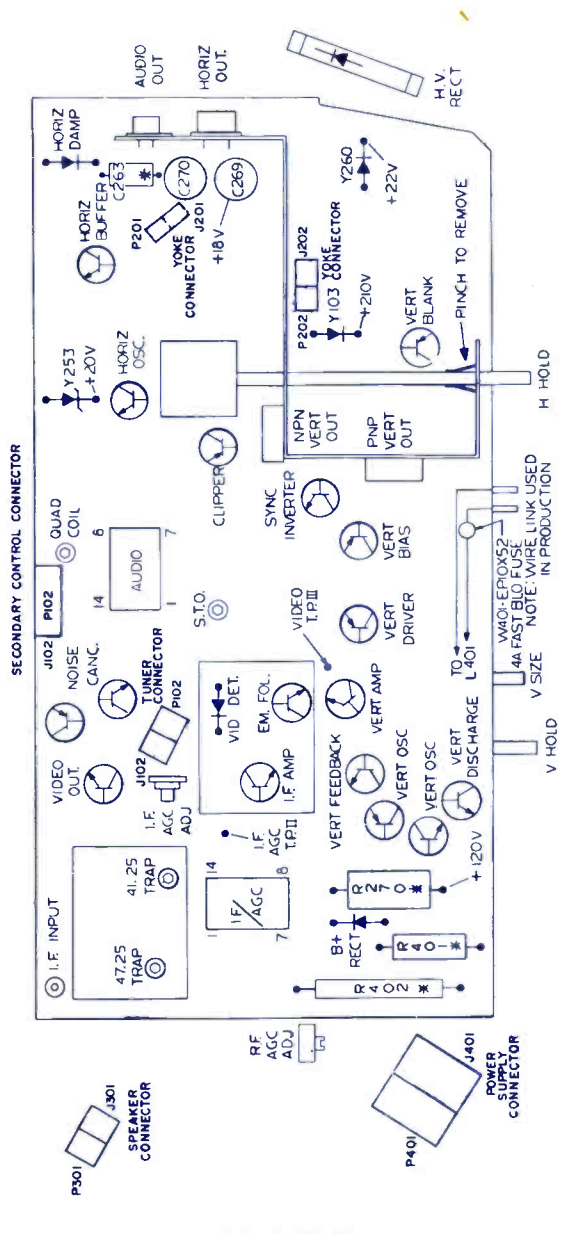
# GENERAL ELECTRIC TV Chassis XA



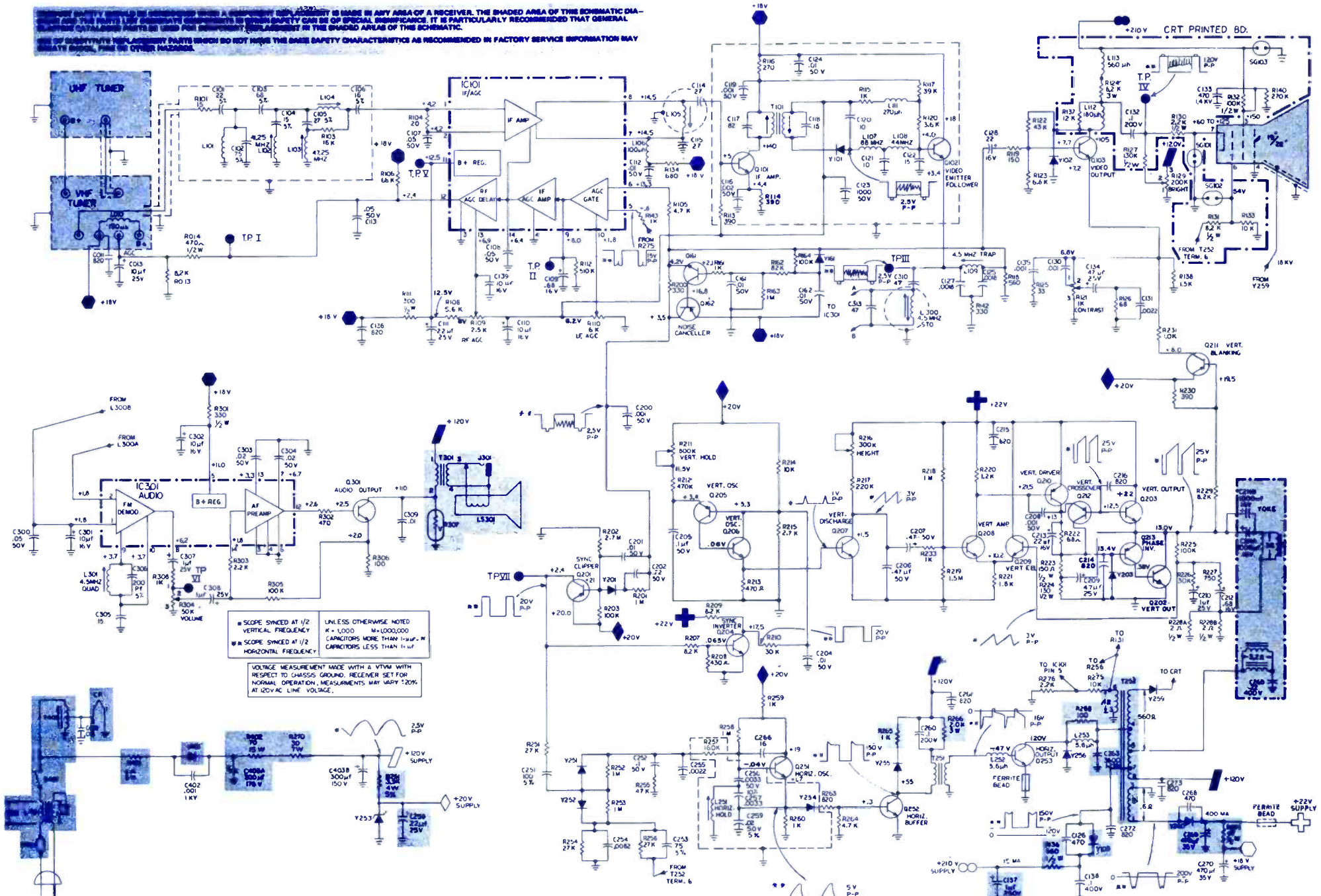
SCHMATIC DIAGRAM

SAFETY WARNING: GENERAL ELECTRIC RECEIVERS ARE DESIGNED WITH A SAFETY FEATURE WHICH IS MADE IN ANY AREA OF A RECEIVER. THE SHADED AREA OF THE SCHEMATIC DIAGRAM AND THE PARTS LIST INDICATE COMPONENTS IN THIS SAFETY AREA. IT IS PARTICULARLY RECOMMENDED THAT GENERAL ELECTRIC RECEIVERS BE USED FOR SERVICE REPAIRS IN THE SHADED AREAS OF THE SCHEMATIC.

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



CHASSIS LAYOUT



UNLESS OTHERWISE NOTED  
K = 1,000 M = 1,000,000  
CAPACITORS MORE THAN 1µF - R  
CAPACITORS LESS THAN 1µF

VOLTAGE MEASUREMENT MADE WITH A VTVM WITH  
RESPECT TO CHASSIS GROUND. RECEIVER SET FOR  
NORMAL OPERATION. MEASUREMENTS MAY VARY 10%  
AT 120VAC LINE VOLTAGE.

CRT PRINTED BD.

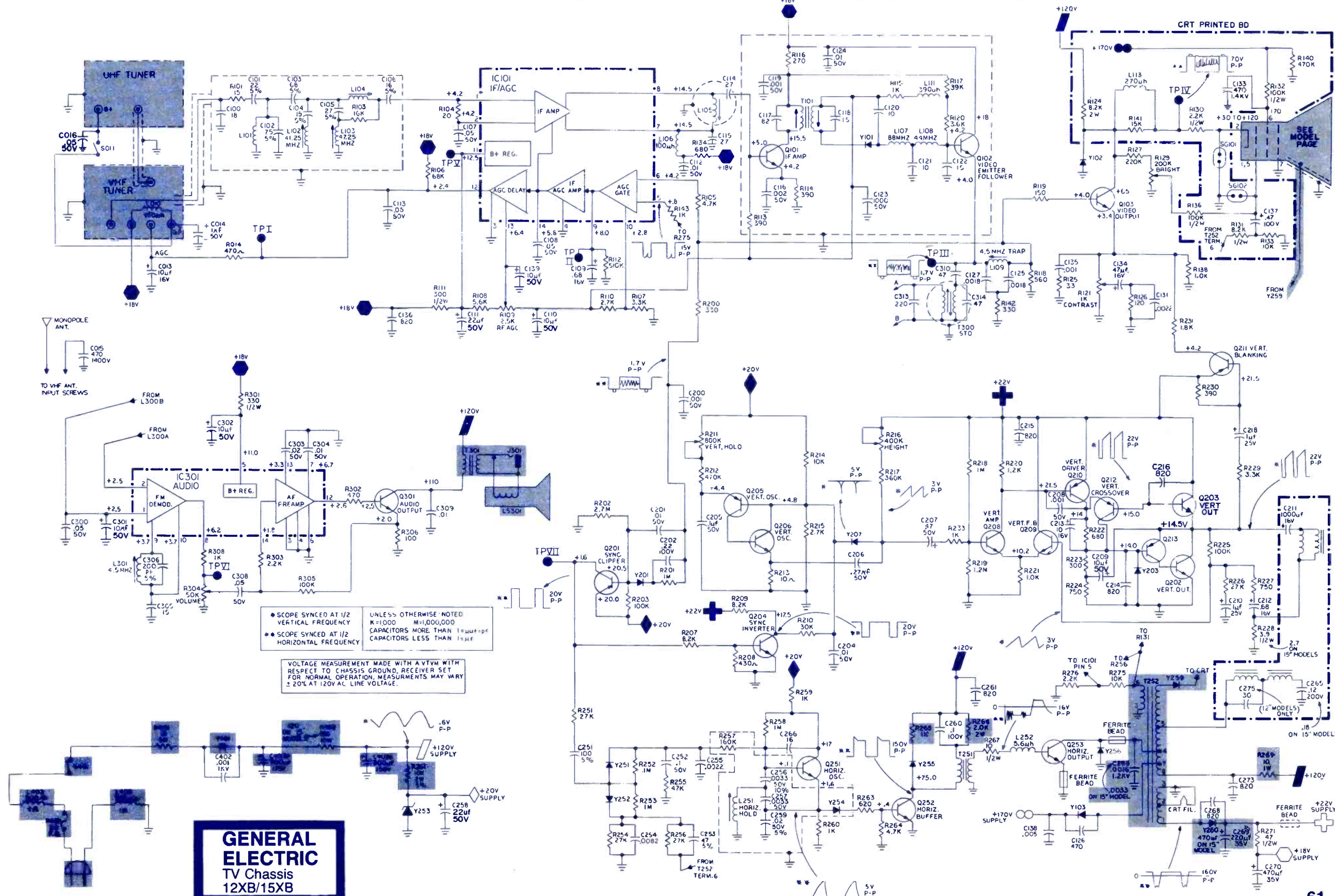
**SYMBOL DESCRIPTION GENERAL ELECTRIC PART NO.**

- R109 — 2.5K, 20%, RF AGC
- potentiometer, dual
- R211 — 800K, vert hold
- R216 — 400K, vert height
- C403A — 300mfd, 175v
- C403B — 300mfd, 150v
- yoke asm 12 in.
- yoke asm 15 in.
- L102 — coil 4.25
- L105 — coil

- EP49X191
- ES49X106
- ES31X50
- ES76X16
- ES76X17
- ES36X83
- ES36X124

- L106 — coil
- L109 — coil 4.5MHZ
- L251 — coil horiz osc
- T252 — xformer HV
- T300 — coil sound take off
- T301 — audio output
- L402 — choke 800µh
- L403 — choke 800µh
- IC101 — IF/AGC
- IC301 — audio
- fuse 2a, 250v fast blo pigtail

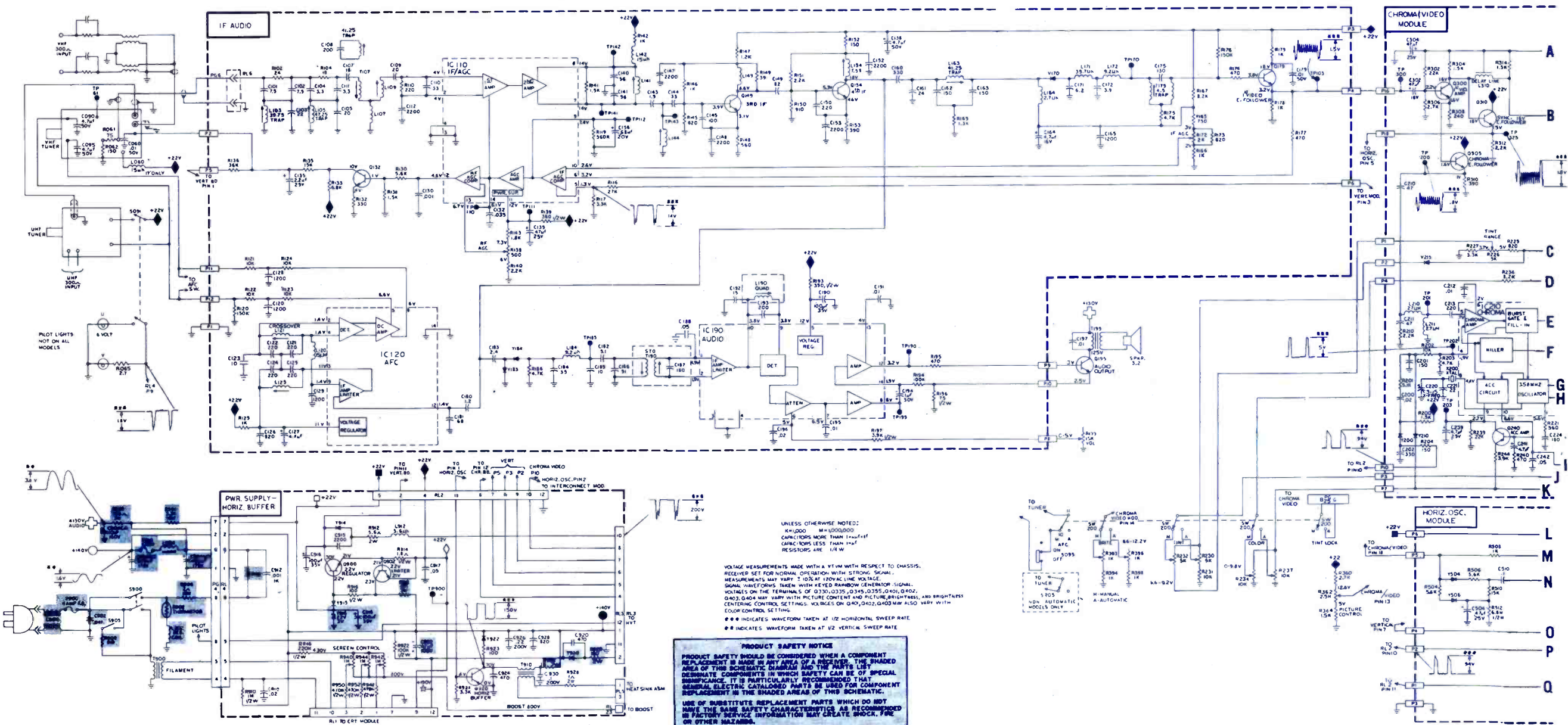
- ES36X127
- ES36X123
- ES36X88
- ES77X22
- ES36X129
- ES64X13
- ES36X132
- ES36X132
- EP84X10
- EP84X2
- ES10X46



**GENERAL ELECTRIC**  
TV Chassis  
12XB/15XB

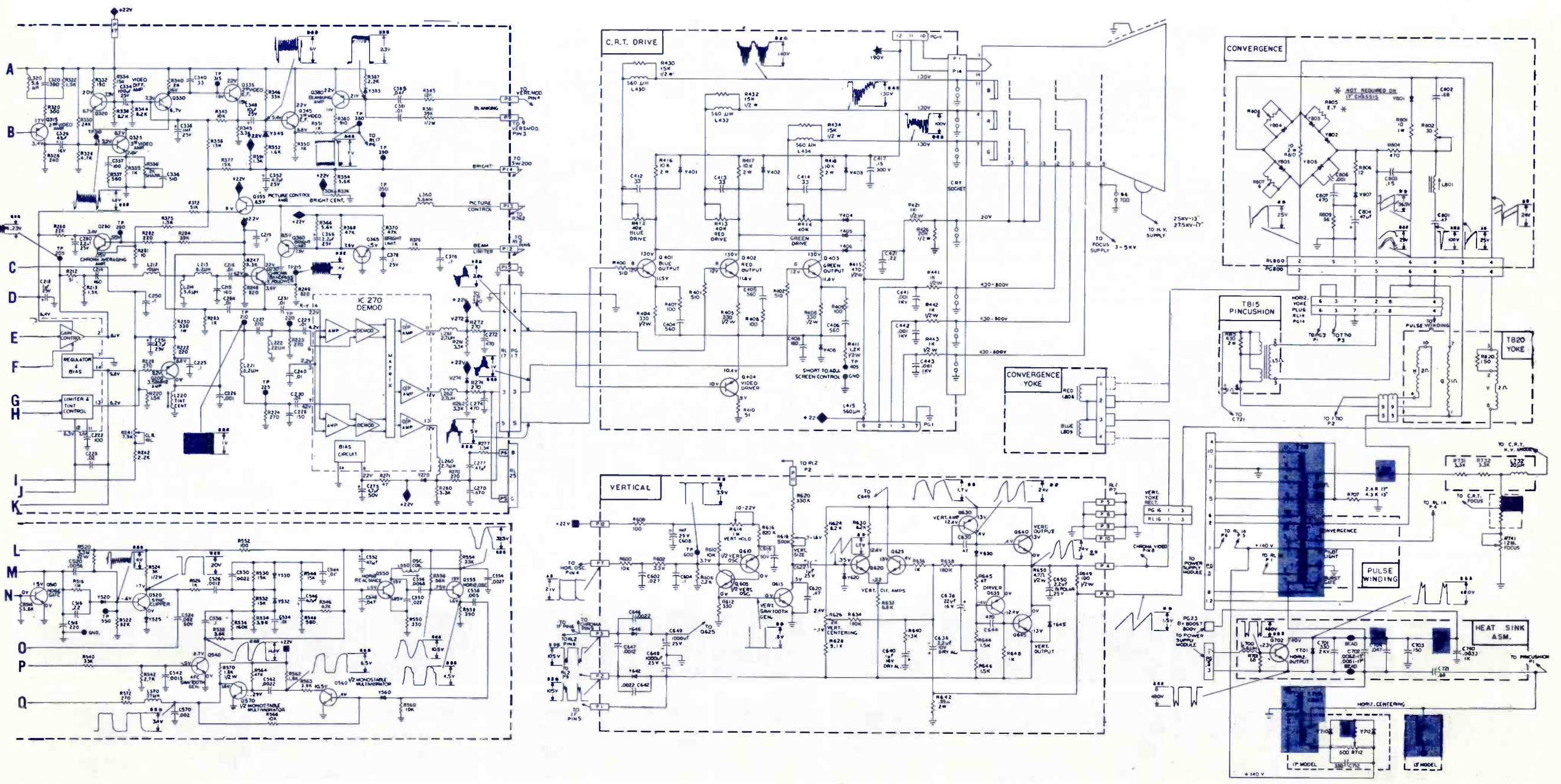
# GENERAL ELECTRIC

Color TV Chassis YA



UNLESS OTHERWISE NOTED:  
 K=1000 M=1000000  
 CAPACITORS MORE THAN 1μF MUST BE ELECTROLYTIC  
 CAPACITORS LESS THAN 1μF RESISTORS ARE 1/4W

VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS.  
 RECEIVER SET FOR NORMAL OPERATION WITH STRONG SIGNAL.  
 MEASUREMENTS MAY VARY ±10% AT 100VAC LINE VOLTAGE.  
 SIGNAL WAVEFORMS TAKEN WITH KEYS RAINBOW GENERATOR SIGNAL.  
 VOLTAGES ON THE TERMINALS OF Q130, Q135, Q140, Q145, Q150, Q155, Q160, Q165, Q170, Q175, Q180, Q185, Q190, Q195, Q200, Q205, Q210, Q215, Q220, Q225, Q230, Q235, Q240, Q245, Q250, Q255, Q260, Q265, Q270, Q275, Q280, Q285, Q290, Q295, Q300, Q305, Q310, Q315, Q320, Q325, Q330, Q335, Q340, Q345, Q350, Q355, Q360, Q365, Q370, Q375, Q380, Q385, Q390, Q395, Q400, Q405, Q410, Q415, Q420, Q425, Q430, Q435, Q440, Q445, Q450, Q455, Q460, Q465, Q470, Q475, Q480, Q485, Q490, Q495, Q500, Q505, Q510, Q515, Q520, Q525, Q530, Q535, Q540, Q545, Q550, Q555, Q560, Q565, Q570, Q575, Q580, Q585, Q590, Q595, Q600, Q605, Q610, Q615, Q620, Q625, Q630, Q635, Q640, Q645, Q650, Q655, Q660, Q665, Q670, Q675, Q680, Q685, Q690, Q695, Q700, Q705, Q710, Q715, Q720, Q725, Q730, Q735, Q740, Q745, Q750, Q755, Q760, Q765, Q770, Q775, Q780, Q785, Q790, Q795, Q800, Q805, Q810, Q815, Q820, Q825, Q830, Q835, Q840, Q845, Q850, Q855, Q860, Q865, Q870, Q875, Q880, Q885, Q890, Q895, Q900, Q905, Q910, Q915, Q920, Q925, Q930, 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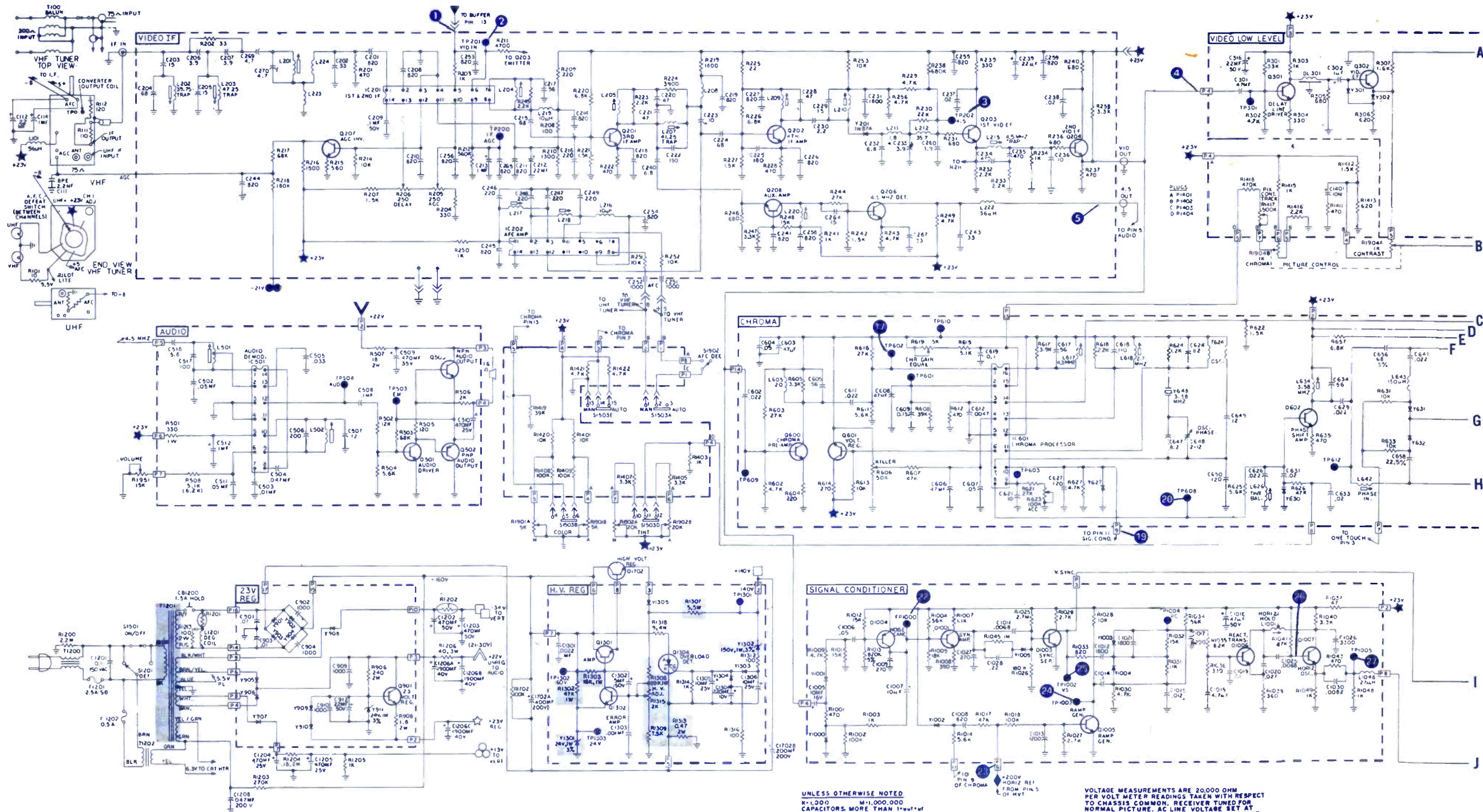
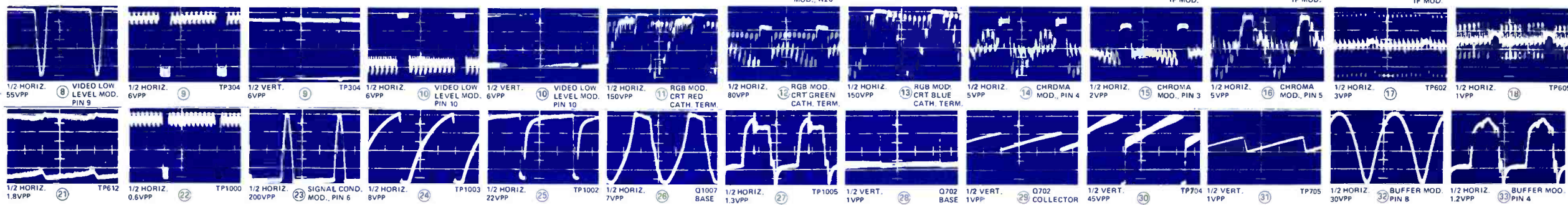


GENERAL ELECTRIC  
Color TV Chassis  
YA



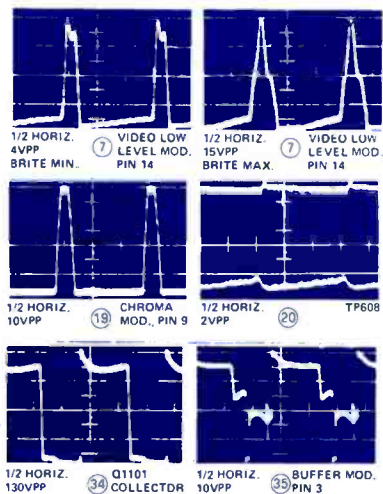
# GENERAL ELECTRIC

Color TV Chassis  
MB-75



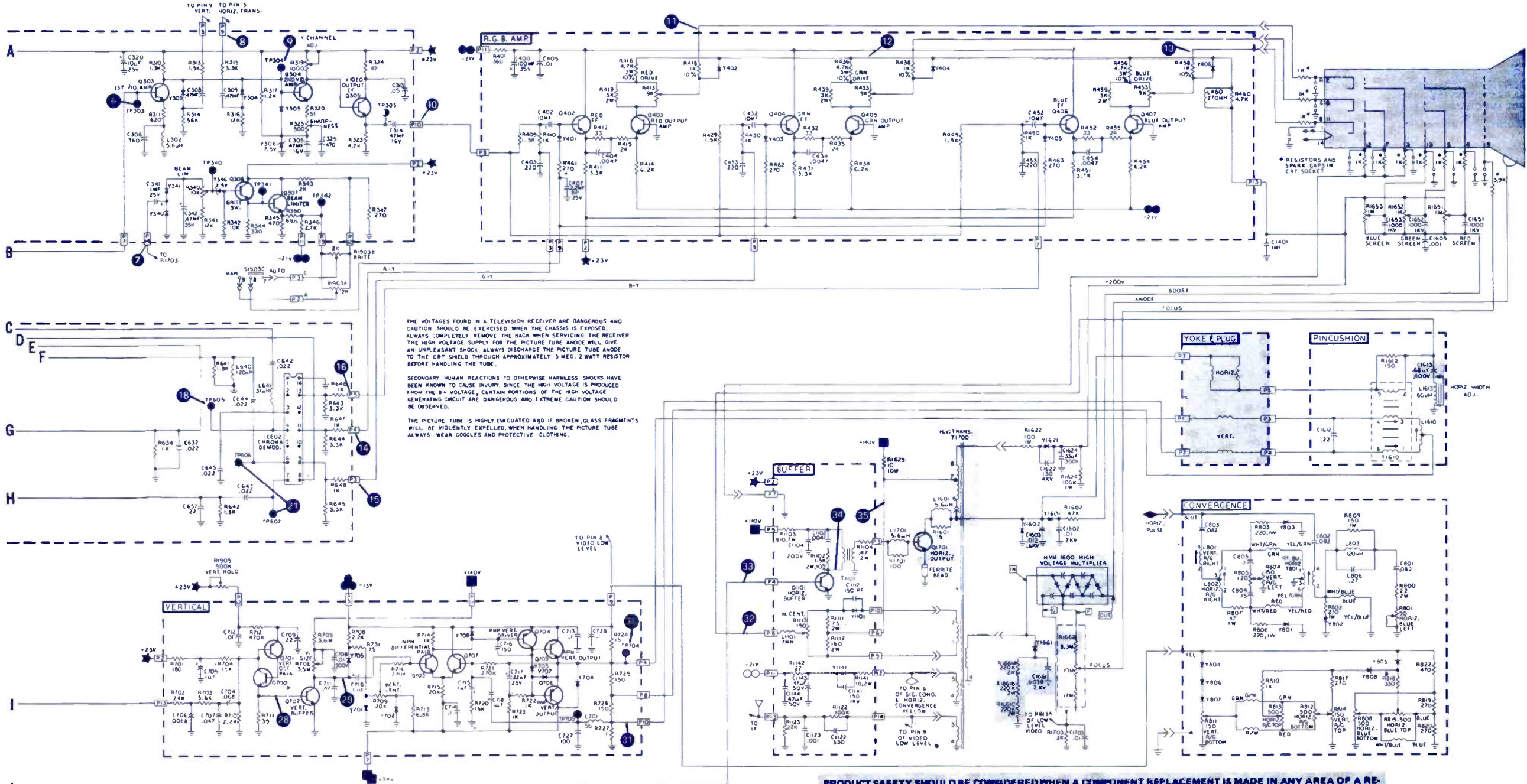
UNLESS OTHERWISE NOTED  
R=1,000 M=1,000,000  
CAPACITORS MORE THAN 1µF MUST BE POLARIZED  
RESISTORS LESS THAN 10Ω  
RESISTORS ARE 1/2 WATT

VOLTAGE MEASUREMENTS ARE 20,000 OHM PER VOLT METER READINGS TAKEN WITH RESPECT TO CHASSIS COMMON. RECEIVER TUNED FOR NORMAL PICTURE. AC LINE VOLTAGE SET AT 120V. READINGS MAY VARY 10% FROM THOSE SHOWN.



SYMBOL	DESCRIPTION	GENERAL ELECTRIC PART NO.
R205	IF AGC 250n	EP49X142
R206	RF AGC 250n	EP49X142
R413	red drive	EP49X141
R433	green drive	EP49X141
R453	blue drive	EP49X141
R606	kill adj 50K	EU49X35
R619	chroma gain equal 5K	ES49X627
R623	ACC adj 100K	EP49X143
R706	vert size 3.5M	EP49X144
R709	vert center	EP49X144
R1113	horiz center 150n	EP49X147
R1315	HV adj 2K	EP49X90
R1662	focus pot asm.	EP62X42
C1206A	1900µf, +100-10% 40v	EP31X42
C1206B	1900µf, +100-10% 40v	EP31X42
C1206C	1900µf, +100-10% 40v	EP31X42
C1702A	400µf, +100-10% 200v	EP31X40

C1702B	200µf, 100 10% 200v	EP31X40
L202	39.75MHz trap	EP36X108
L203	47.25MHz trap	EP36X13
L207	41.25MHz trap	EP36X92
L215	4.5MHz trap	EP36X111
L222	choke	ES36X751
DL301	delay line	EP36X105
L501	audio take off	EP36X106
L502	quad	EP36X107
L617	chroma 4.3MHz	EP36X112
L701	choke	EP36X119
L1001	horiz osc hold	EP35X2
T1201	power xformer	EP62X45
T1202	CRT filament	EP64X34
T1610	pincushion	EP51X2
T1700	high voltage	EP77X13
C81201	circuit breaker 1.5a	ES10X18
F1201	fuse 2.5a 125v slo blo	EP10X13
F1202	fuse .5a 250v fast blo	ES10X43



THE VOLTAGES FOUND IN A TELEVISION RECEIVER ARE DANGEROUS AND CAUTION SHOULD BE EXERCISED WHEN THE CHASSIS IS EXPOSED. ALWAYS COMPLETELY REMOVE THE BACK WHEN SERVICING THE RECEIVER. THE HIGH VOLTAGE SUPPLY FOR THE PICTURE TUBE ANODE WILL GIVE AN UNPLEASANT SHOCK. ALWAYS DISCHARGE THE PICTURE TUBE ANODE TO THE CRT SHIELD THROUGH APPROXIMATELY 5 MEG. 2 WATT RESISTOR BEFORE HANDLING THE TUBE.

SECONDARY HUMAN REACTIONS TO OTHERWISE HARMLESS SHOCKS HAVE BEEN KNOWN TO CAUSE INJURY. SINCE THE HIGH VOLTAGE IS PRODUCED FROM THE B+ VOLTAGE, CERTAIN PORTIONS OF THE HIGH VOLTAGE GENERATING CIRCUIT ARE DANGEROUS AND EXTREME CAUTION SHOULD BE OBSERVED.

THE PICTURE TUBE IS HIGHLY EVACUATED AND IF BROKEN, GLASS FRAGMENTS WILL BE VIOLENTLY EXPELLED. WHEN HANDLING THE PICTURE TUBE ALWAYS WEAR GOGGLES AND PROTECTIVE CLOTHING.

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.

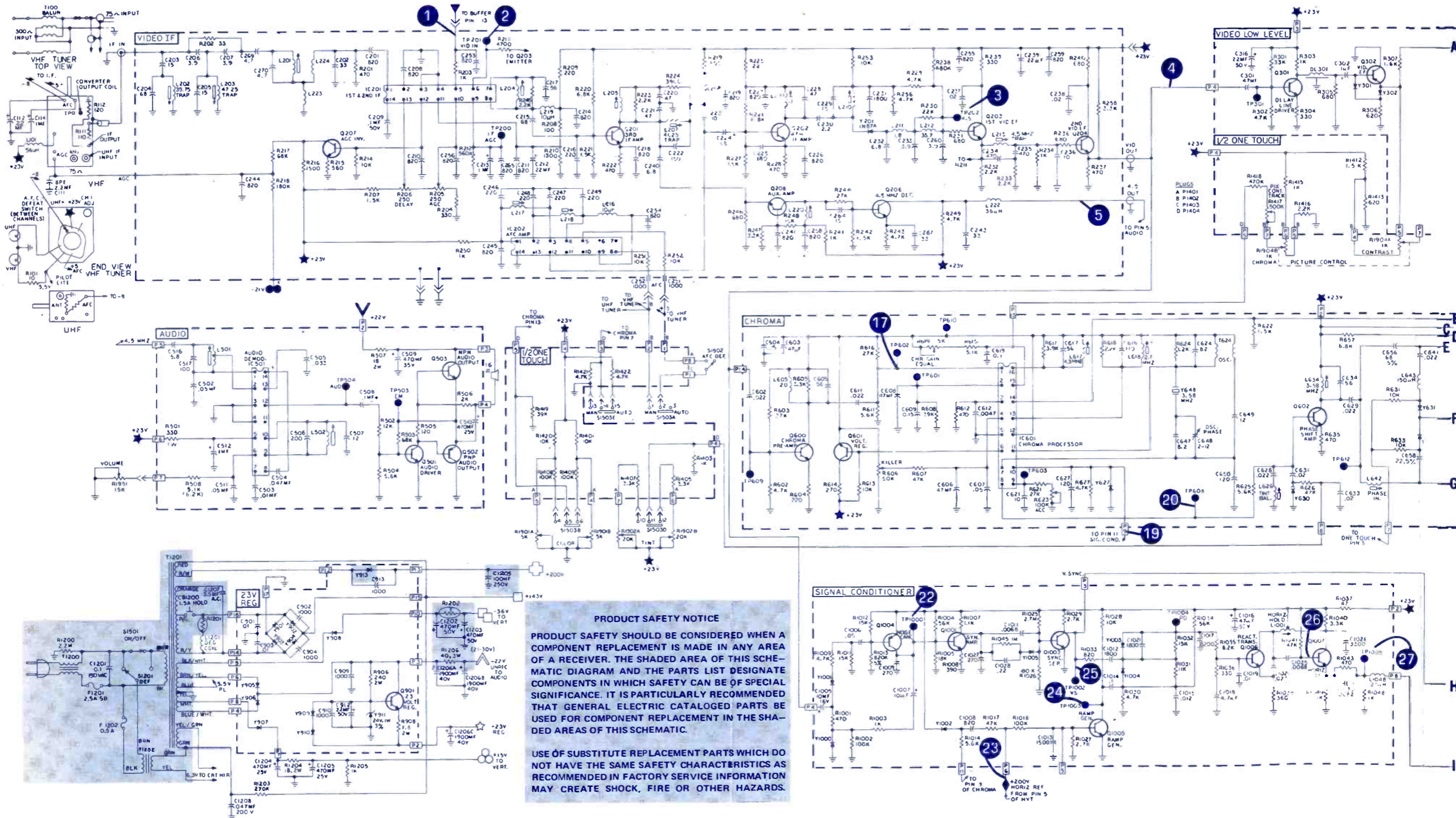
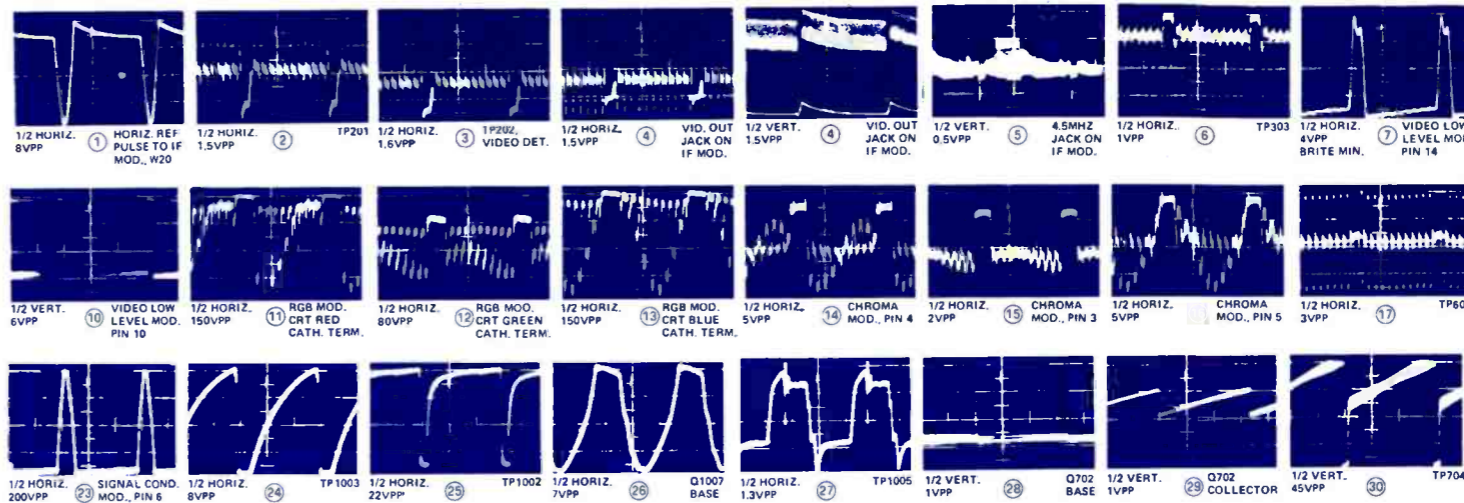
# GENERAL ELECTRIC

Color TV Chassis  
25MC

SYMBOL DESCRIPTION GENERAL ELECTRIC PART NO.

R1663—focus resist	EP14X84
R205—1F AGC, 250n	EP49X142
R325—sharpness, 500n	EP49X140
R340—brite limit, 10K	EP36X112
R413—red drive, 9K	EP36X112
R433—green drive, 9K	EP49X141
R453—blue drive, 9K	EP49X141
R606—killer adj, 50K	EU49X35
R619—chroma gain equal, 5K	ES49X627
R623—ACC adj, 100K	EP49X143
R706—vert size, 3.5M	EP49X144
R709—vert center, 2K	EP49X147
R1113—horiz center, 150n	EP62X59
R1662—focus pot, 18M	EP31X42
C1206A, B—1900µf, +100—10%, 40v	EP31X58
C1702A, B—400µf, +100—10%, 175v	EP36X105
DL301—delay line	EP36X105

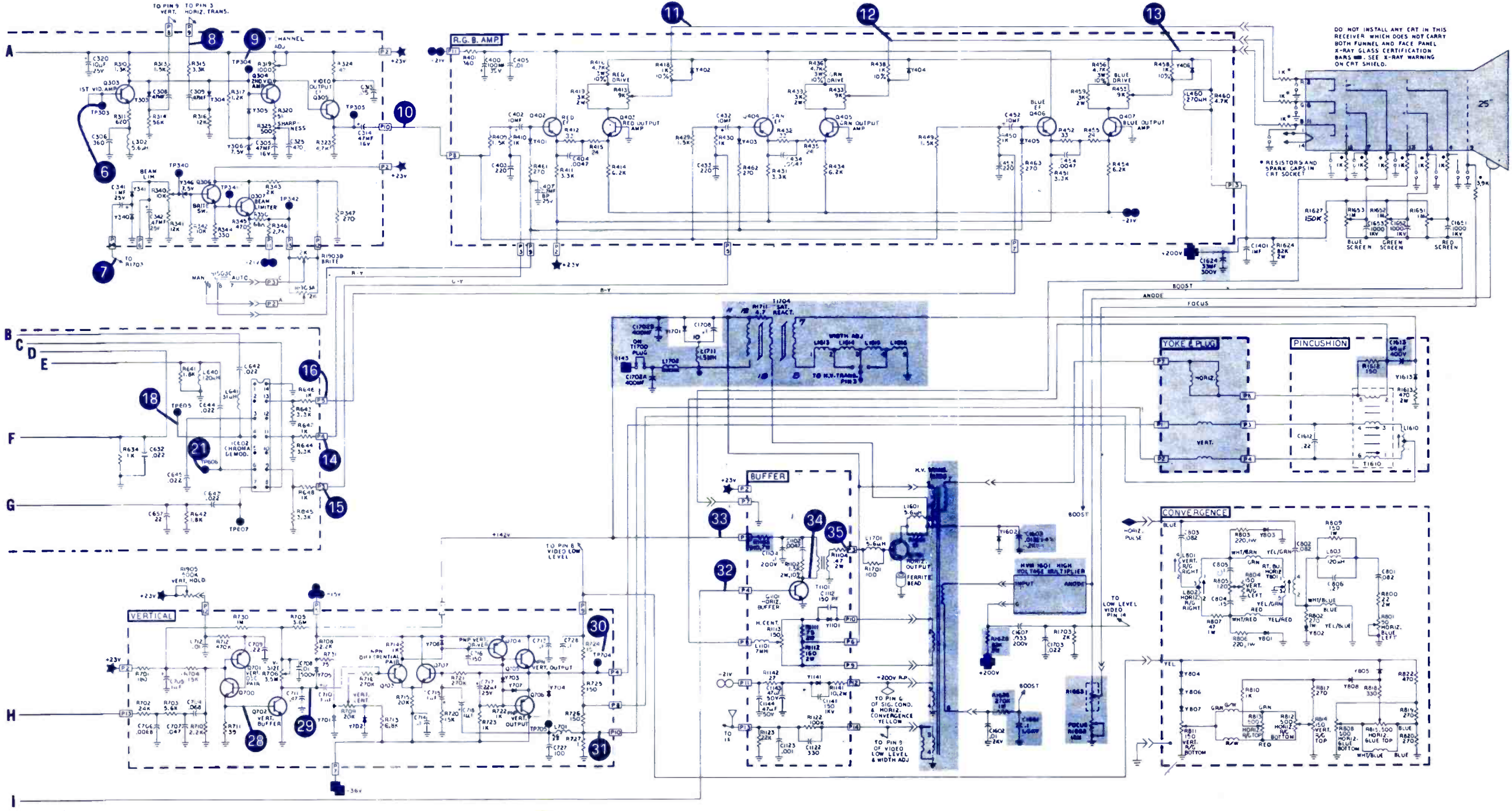
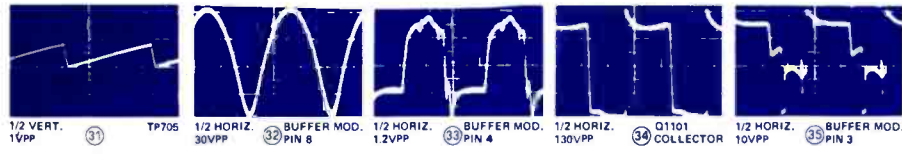
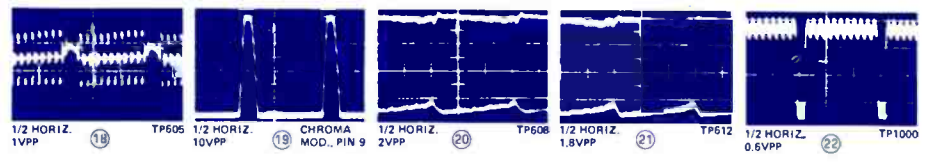
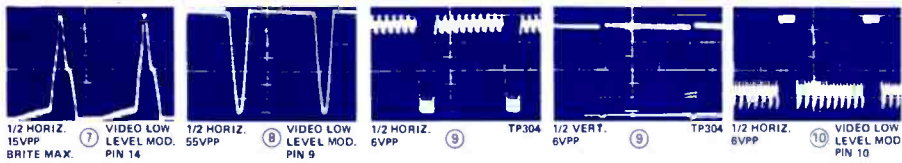
L501—audio take off	EP36X106
L502—quad	EP36X107
L626—coil, tint bal adj	EP36X112
L634—phase, 3.58MHz	EP36X112
L642—chroma phase	EP36X112
L1001—horiz osc hold	EP35X2
L1613—width coil assmy	EP36X151
L1702—filter reactor	EP63X10
T624—3.58MHz osc	EP36X113
T1201—power xformer	EP62X54
T1700—high voltage xformer	EP77X24
Q1701—horiz output, NPN	EP15X45
Q1702—HV reg, NPN	EP15X29
circuit breaker 1.5a, CB1201	ES10X18
fuse 2.5a 125v, slo blo, F1201	EP10X13
fuse .5a, 250v, fast blo F1202	ES10X43
Quadrupler HV HVM 1601	EP62X57
tuner VHF solid state	EP86X38
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.

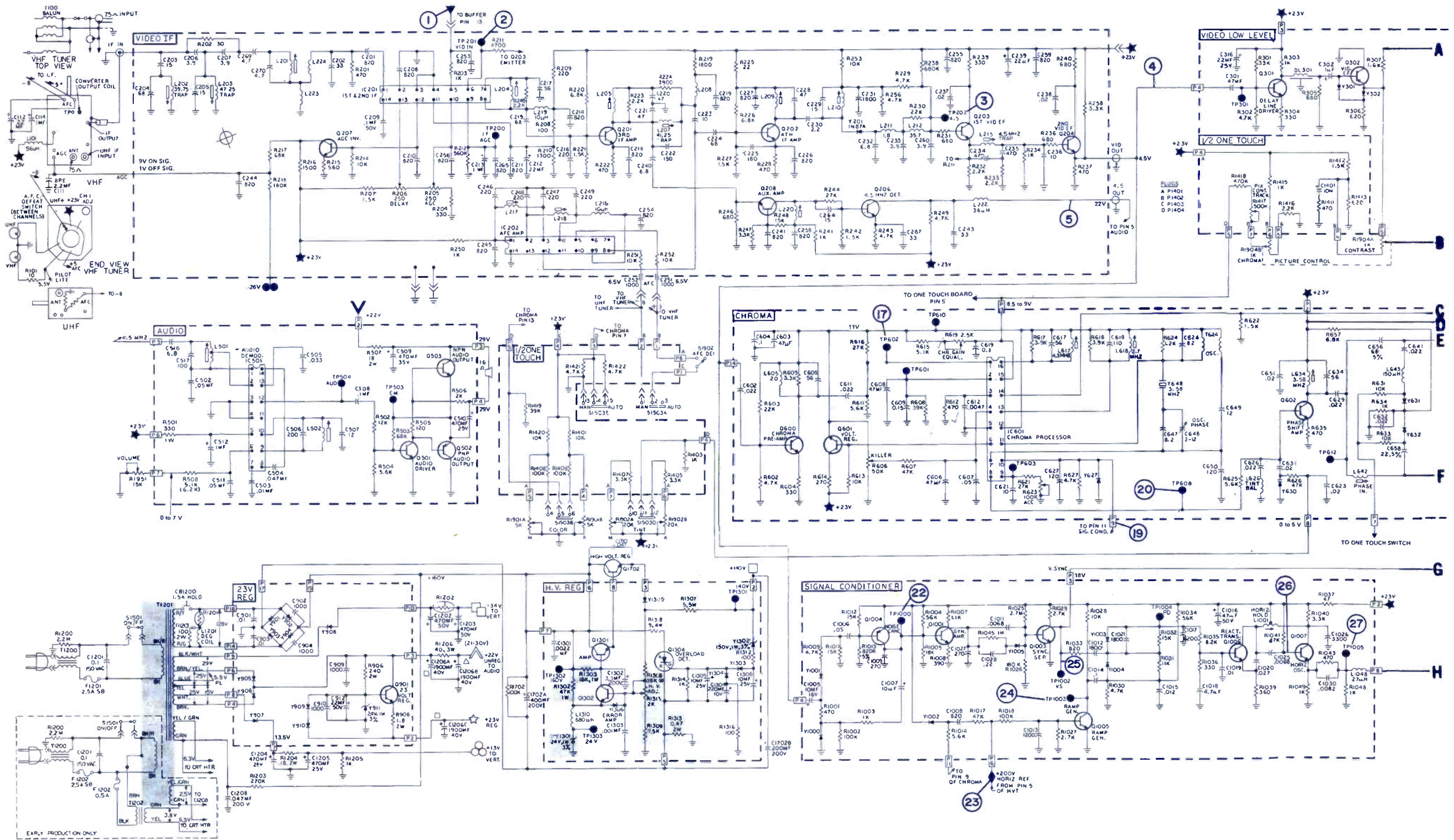
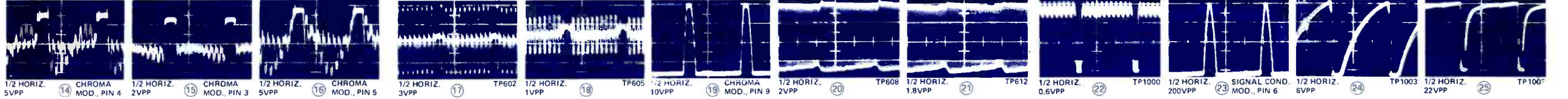


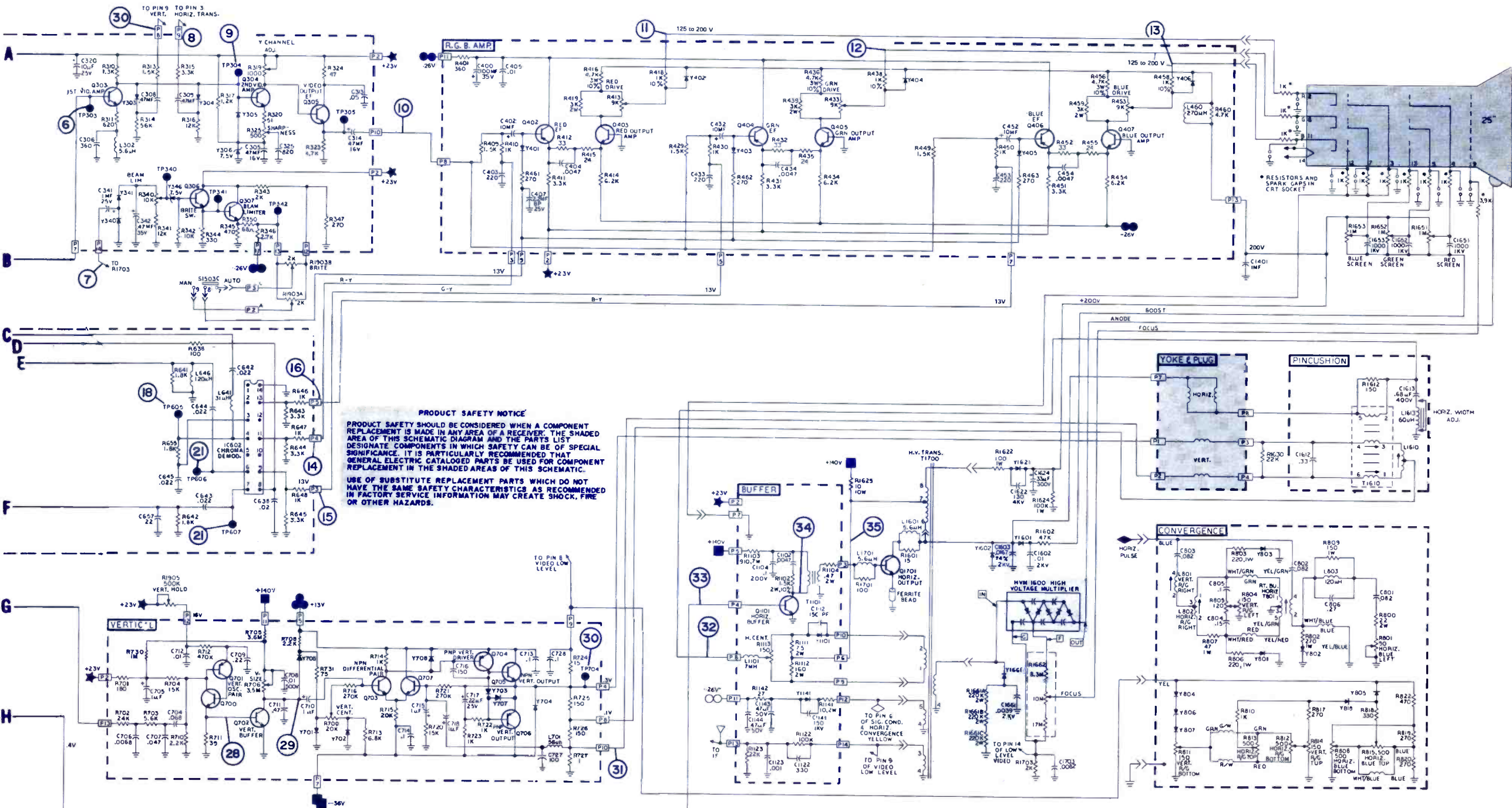
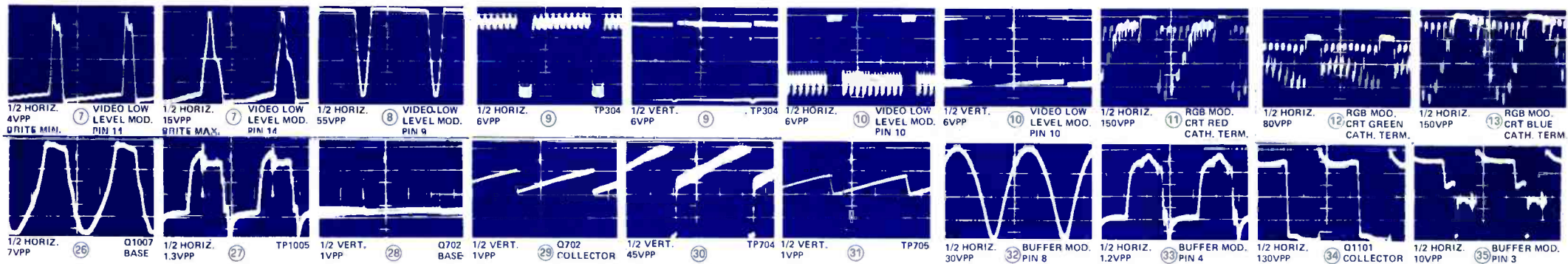
**GENERAL ELECTRIC**  
Color TV Chassis  
25MC

# GENERAL ELECTRIC

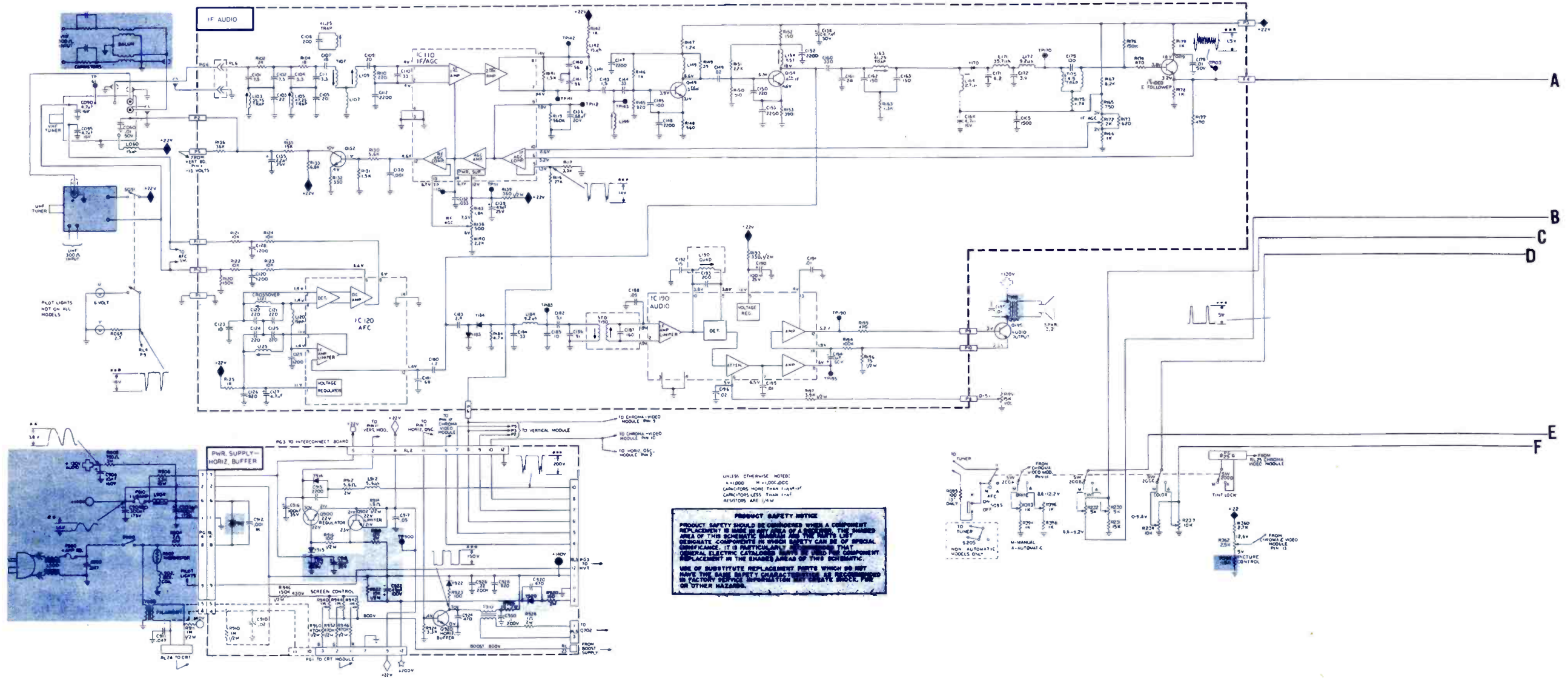
## Color TV Chassis

### 25MB-2

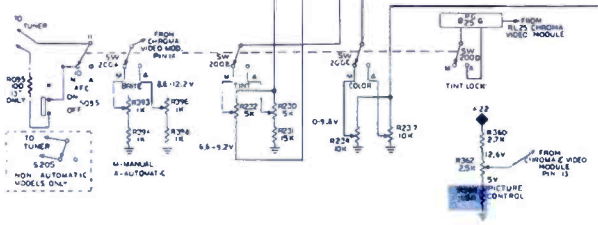


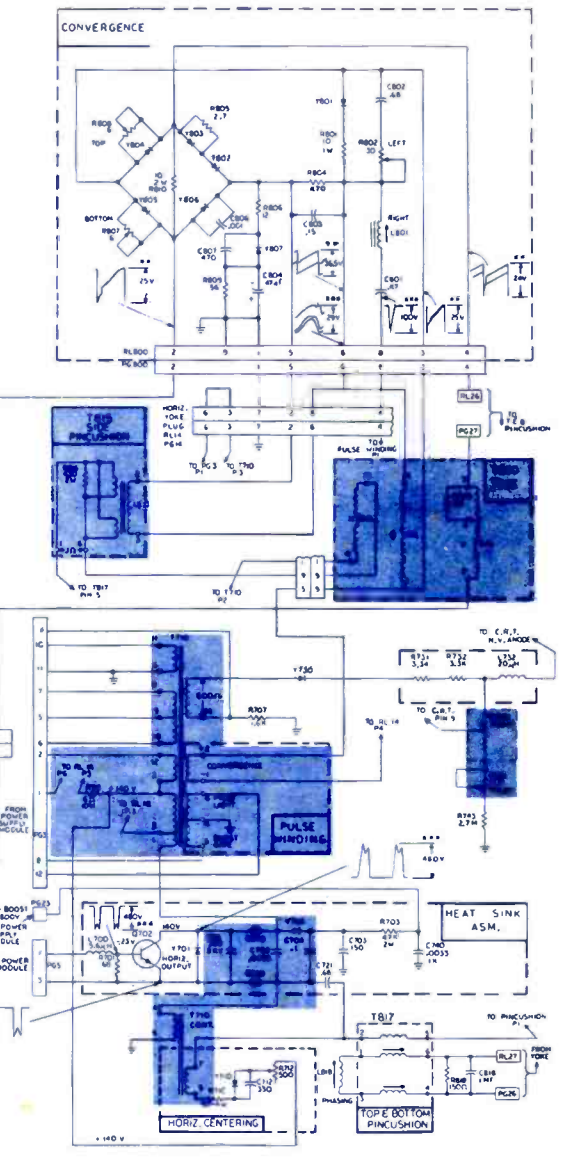
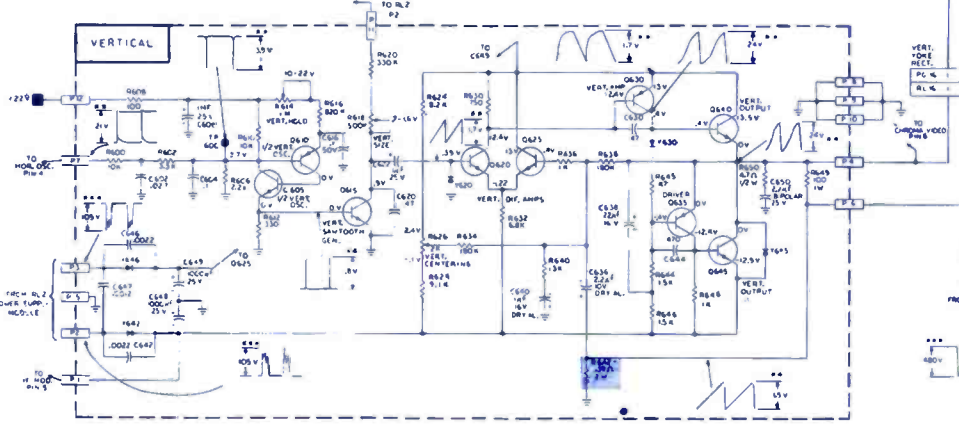
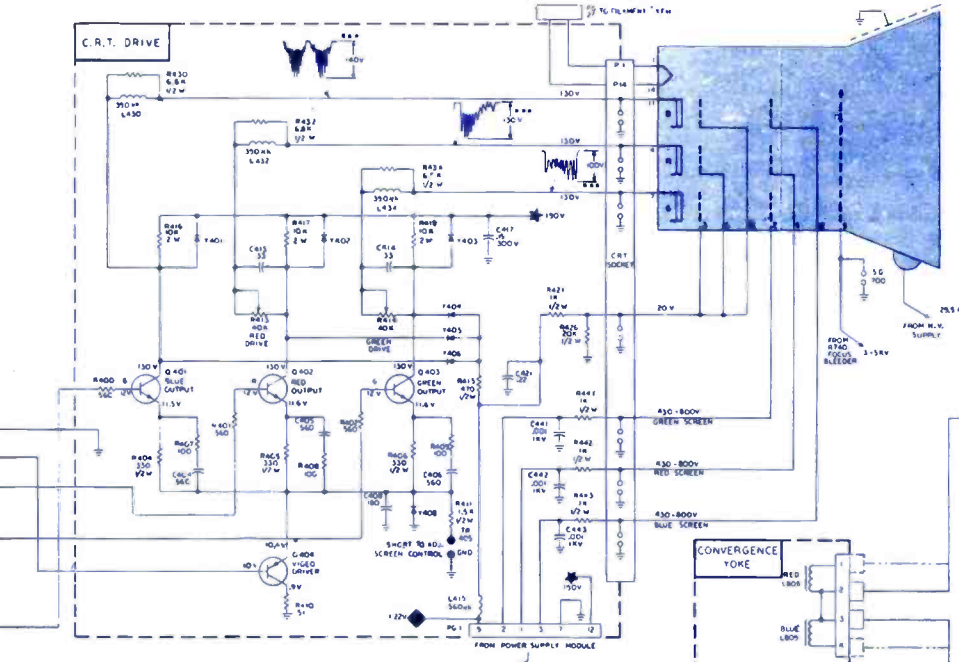
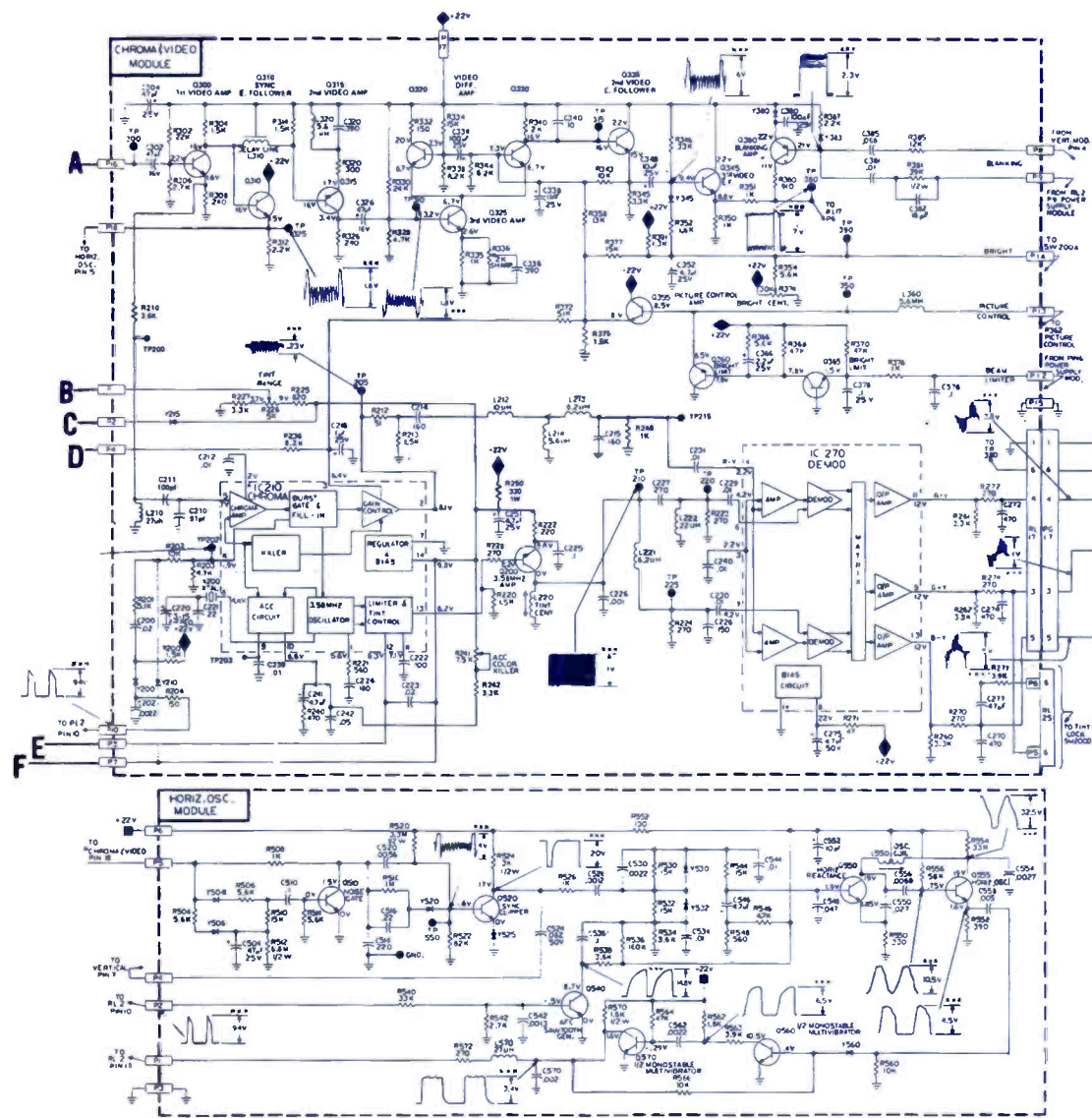


**GENERAL ELECTRIC**  
Color TV  
Chassis 19YC



**PRODUCT SAFETY NOTICE**  
 PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE Hatched AREA OF THIS SCHEMATIC DIAGRAM AND THE PARTS LIST DESIGNATE COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL IMPORTANCE. IT IS PARTICULARLY IMPORTANT THAT ORIGINAL ELECTRIC CATALOG NUMBERS BE USED IN COMPONENT REPLACEMENT IN THE Hatched AREAS OF THIS SCHEMATIC.  
 USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS PROVIDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS.



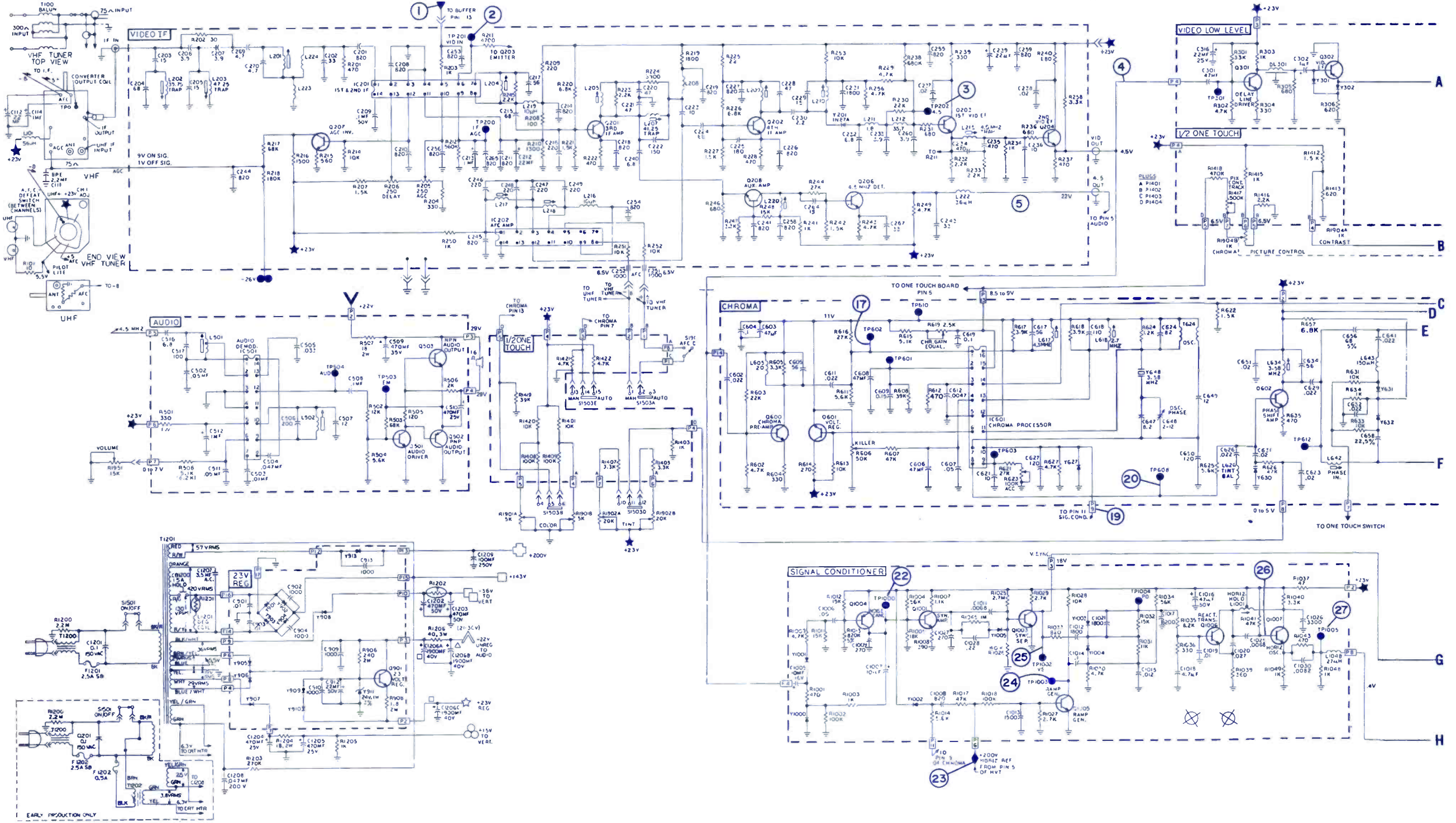
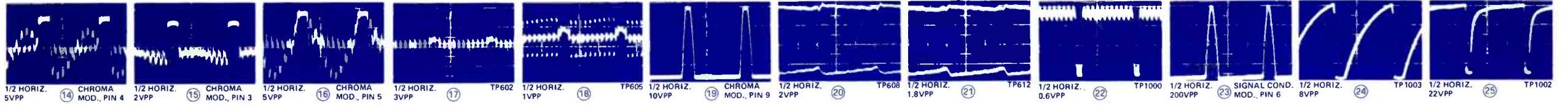


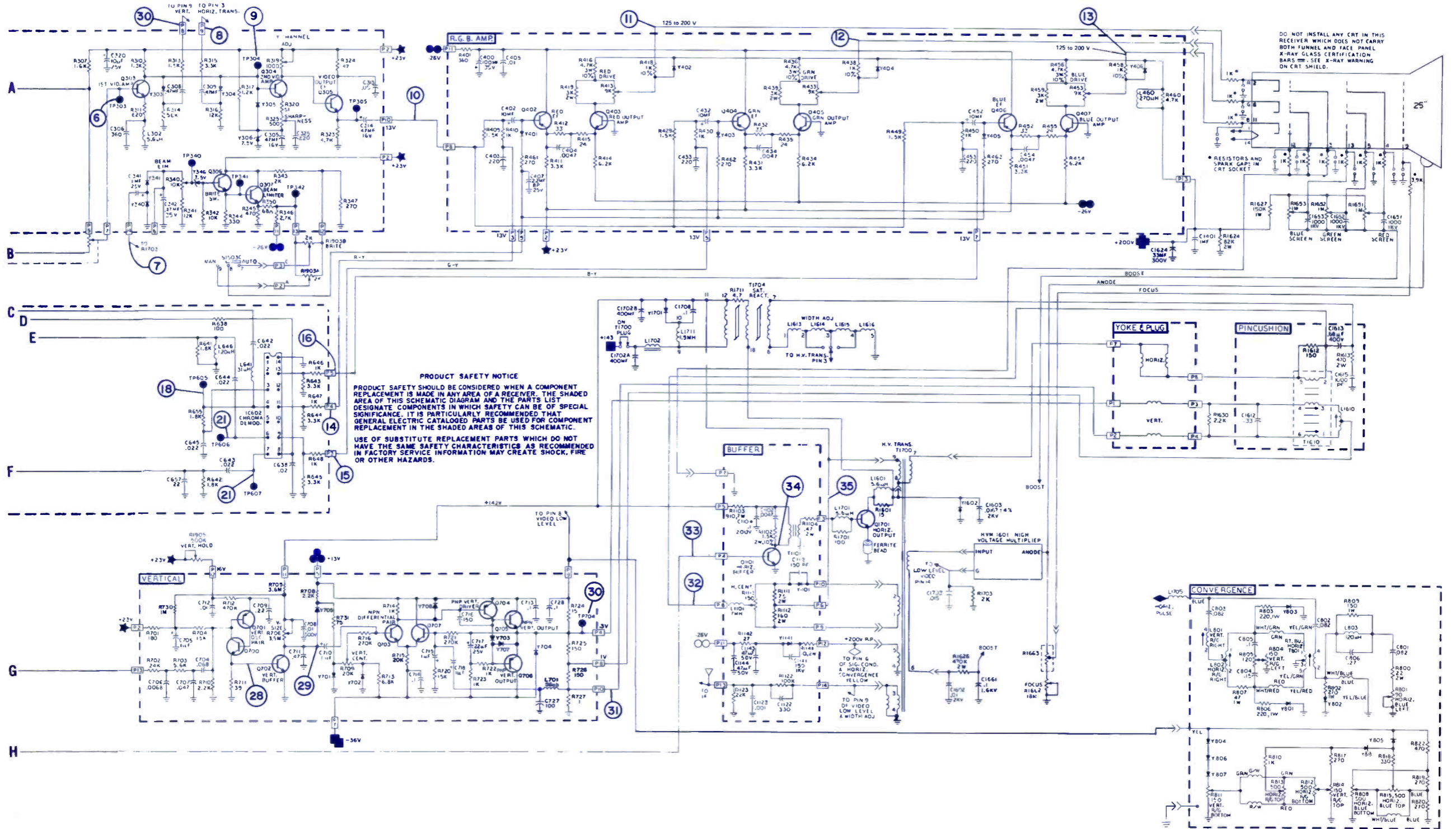
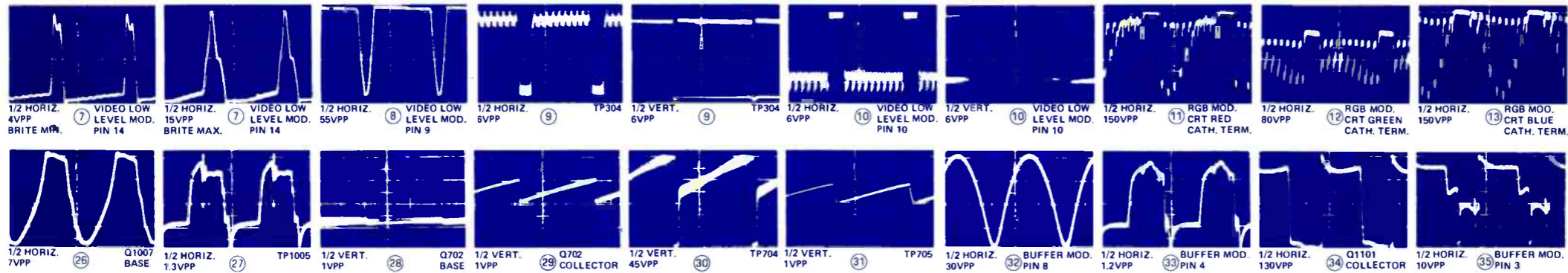
**GENERAL ELECTRIC**  
Color TV  
Chassis 19YC



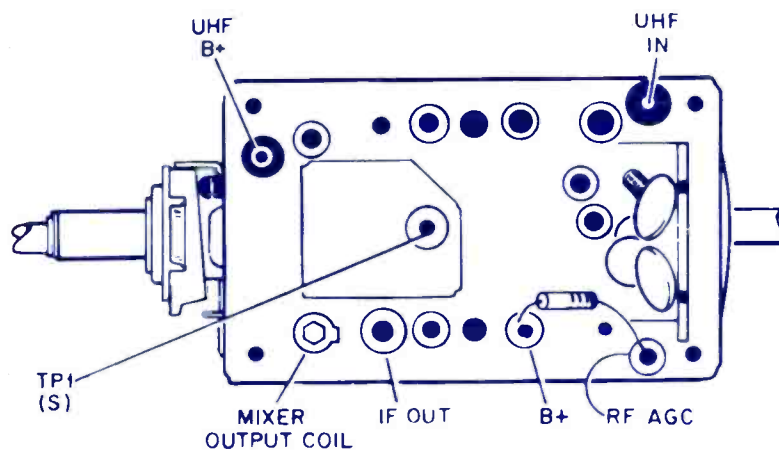
# GENERAL ELECTRIC

## Color TV Chassis 25MC-2



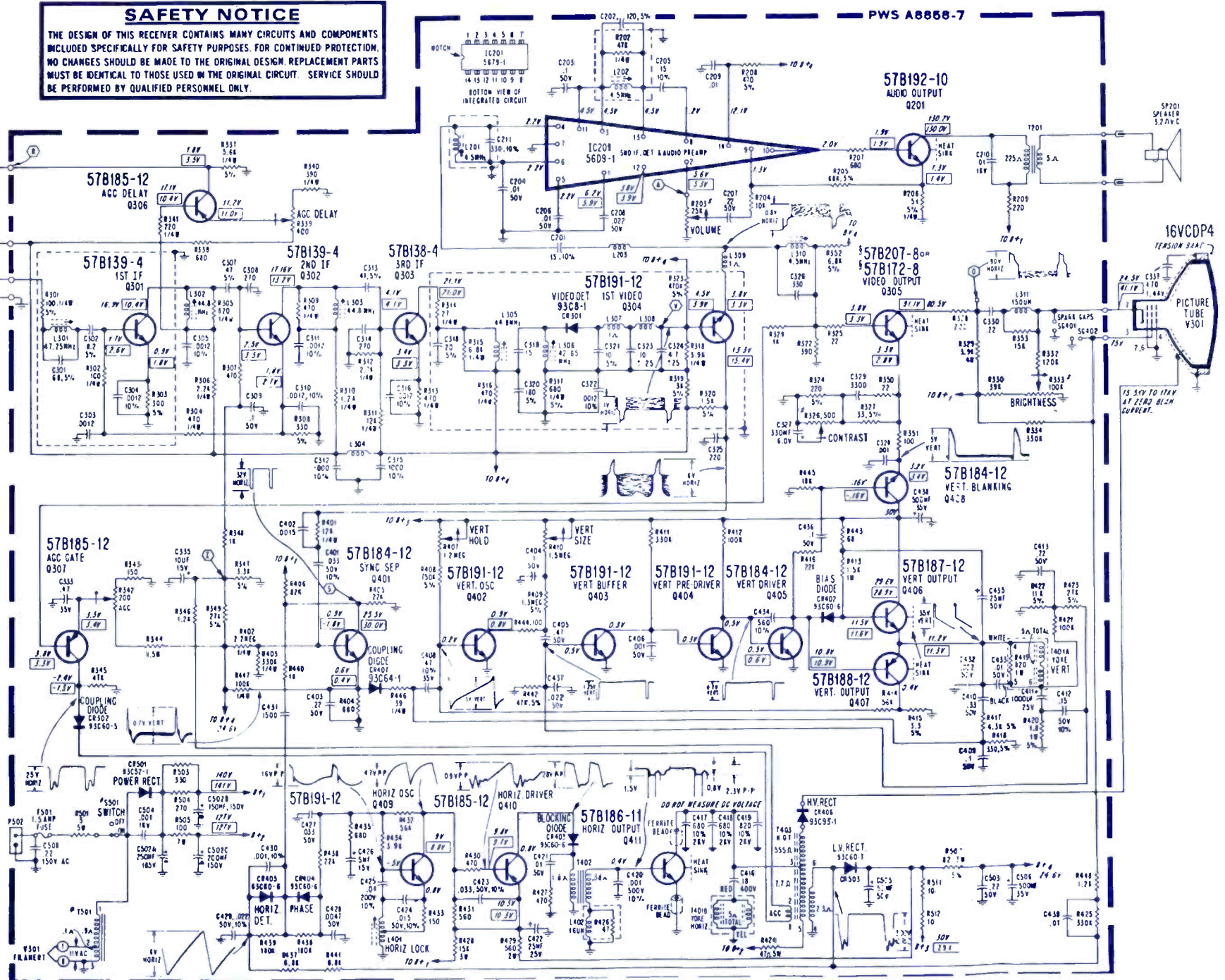
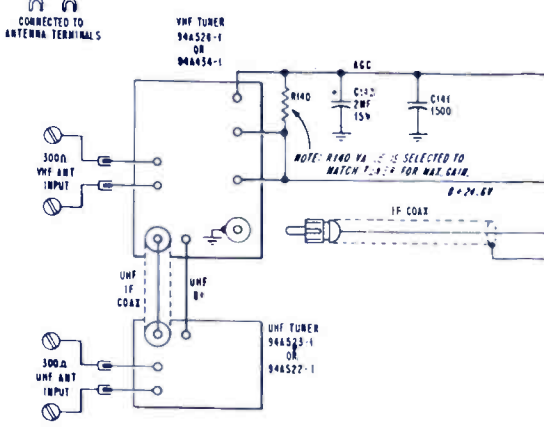
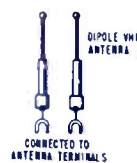


**K-MART**  
TV Chassis  
T1K8-1B/2B



SYMBOL	DESCRIPTION	K MART PART NO.
C502A	—250mf, 165v	67A30-11
C502B	—150mf, 150v electro	67A30-11
C502C	—200mf, 150v	67A30-11
L202	—4.5MHz sound coll	72A317-6
L310	—4.5 MHz trap	72A317-1
L401	—horiz lock coll	94A480-1
T201	—audio output xfomer	79A124-7
T401A,B	—deflect yoke	700A1089-15
T403	—horiz output xfomer	79A166-1
T501	—filament xfomer	80A117-6
R203	—25K volume, on/off	75A1-226
R326	—500 ohm, contrast	75A1-220
R333	—100K brite	75A1-221
R339	—400 ohm, AGC delay	75A101-50
R342	—200 ohm, AGC	75A101-49
R407	—1.2M, vert hold	75A191-1
R410	—1.5M, vert size	75A101-57
F501	—1.5a fuse	84A7-15
	VHF tuner, T1K8-1B	94A526-1
	VHF tuner, T1K8-2B	94A434-1

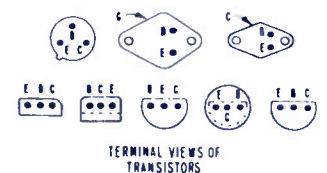
**SAFETY NOTICE**  
THE DESIGN OF THIS RECEIVER CONTAINS MANY CIRCUITS AND COMPONENTS INCLUDED SPECIFICALLY FOR SAFETY PURPOSES. FOR CONTINUED PROTECTION, NO CHANGES SHOULD BE MADE TO THE ORIGINAL DESIGN. REPLACEMENT PARTS MUST BE IDENTICAL TO THOSE USED IN THE ORIGINAL CIRCUIT. SERVICE SHOULD BE PERFORMED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

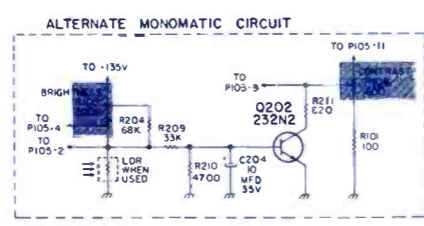
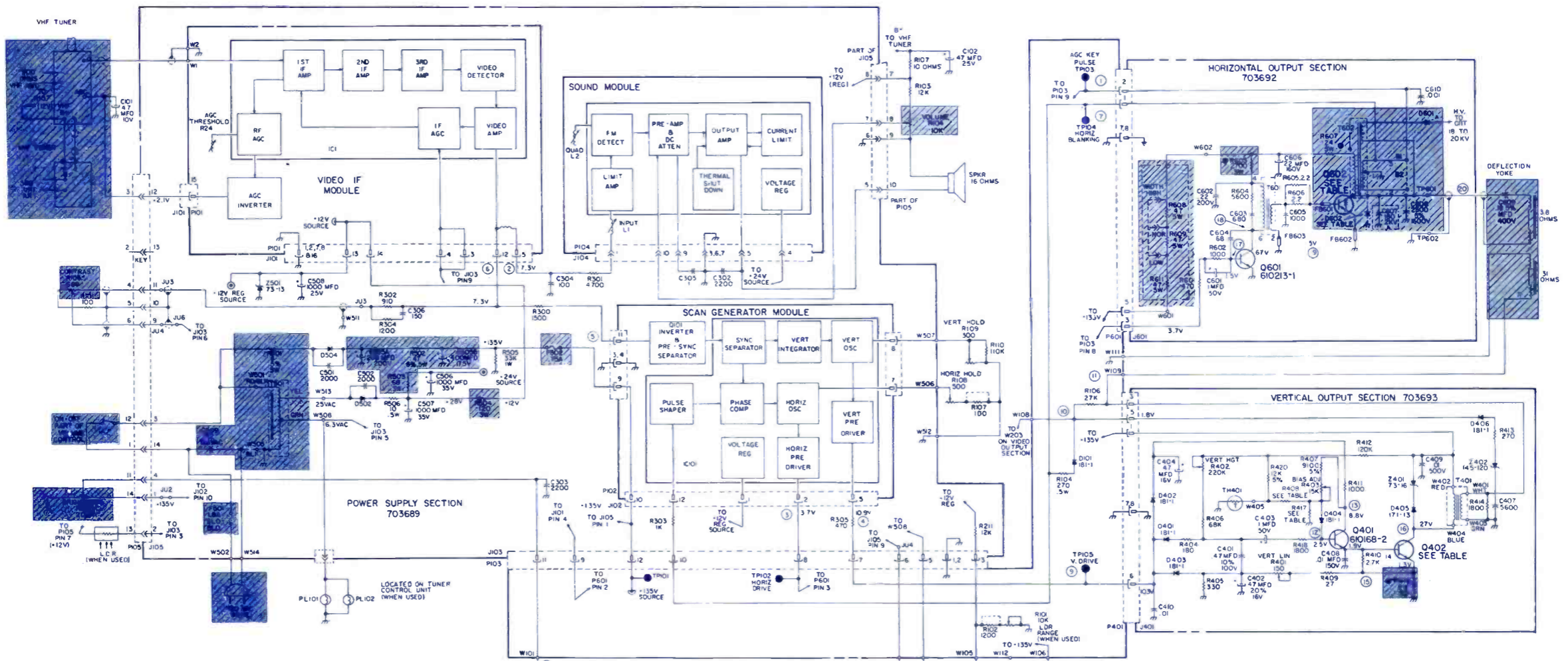
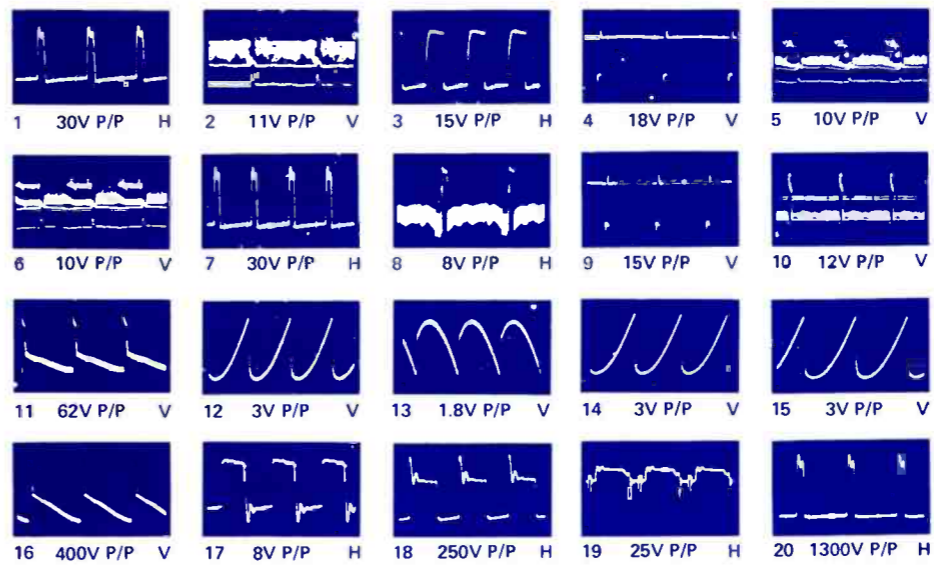


**SCHEMATIC NOTES**  
UNLESS OTHERWISE INDICATED, RESISTOR VALUES ±10%, 1/2%. CAPACITANCE VALUES 10% HIGHER ARE IN P.F. CAPACITANCE VALUES LESS THAN 10% ARE IN P.F. 20% UNLESS OTHERWISE INDICATED.  
RESISTANCE VALUES OF COILS LESS THAN 1Ω IS NOT SHOWN. Hz INDICATES CYCLES PER SECOND.  
VOLTAGE AND WAVEFORM NOTES:  
DC VOLTAGES TAKEN WITH V.T.M., WITH RESPECT TO COMMON GROUND (0-). DC VOLTAGES, WAVEFORMS AND P-P VOLTAGES TAKEN WITH 120V AC LINE AND MAY VARY DEPENDING ON CALIBRATION OF TEST EQUIPMENT AND PARTS TOLERANCES. WHERE TWO DC VOLTAGES ARE INDICATED READING TAKEN WITH TV SIGNAL IS SHOWN IN BLOCK, READING TAKEN WITH NO-SIGNAL IS SHOWN WITHOUT BLOCK. OFF-SIGNAL VOLTAGES TAKEN ON UNUSED VHF CHANNEL WITH ANTENNA TERMINALS SHORTED. VOLUME CONTROL AT MINIMUM, BRIGHTNESS AND CONTRAST CONTROLS AT MAXIMUM. ALL OTHER CONTROLS IN NORMAL OPERATING POSITION. ON-SIGNAL VOLTAGES AND WAVEFORMS TAKEN WITH TRANSMITTED NOISE-FREE SIGNAL PRODUCING 4 TO 5 VOLTS AGC AT TEST POINTS. CONTRAST AND BRIGHTNESS CONTROLS AT MAXIMUM.  
TRANSISTOR CAUTION:  
TO AVOID DAMAGE TO TRANSISTORS, DO NOT ARC 2ND ANODE LEAD TO COMMON GROUND. DO NOT TURN SET ON WITH TRANSISTORS IN TUBES OR LEADS REMOVED OR UNSOLDERED. USE CAUTION TO PREVENT ACCIDENTAL SHORT BETWEEN COMPONENT TERMINALS OR TO COMMON GROUND. DO NOT USE AN ORDINARY OHMMETER FOR RESISTANCE MEASUREMENT. USE V.T.M. ON R.F. 100 RANGE OR HIGHER.  
ACC. CAUTION:  
DO NOT DISTURB FACTORY SETTING OF ACC. CONTROL. IF ACC. ADJUSTMENT IS REQUIRED REFER TO SERVICE NOTES.  
IF NECESSARY TO DISTURB ACC. ADJUSTMENT, MARK ROTOR POSITION SO THAT CONTROL CAN BE RETURNED TO ITS EXACT ORIGINAL SETTING.  
\* ALL WAVEFORMS TAKEN WITH A WIDE-BAND OSCILLOSCOPE. SOME DEGRADATION WILL BE NOTICED IN HORIZ. WAVEFORMS WHEN USING NARROW BANDPASS EQUIPMENT.  
\* COMPONENT NOT MOUNTED ON PRECISION WIRED SYSTEM.  
**WARNING:**  
USE ISOLATION TRANSFORMER WHEN SERVICING WITH CABINET BACK REMOVED.  
\* COMMON GROUND (0-).  
\* REPLACE WITH SAME PART NO. AS ORIGINAL.

**RUN CHANGES**

Start of production.





CHASSIS	CONTROL UNIT	VIDEO OUTPUT
T998-01 Za	TC98-01 033A	703691-1B.2
T998-01 Zb	TC98-02 033A	703691-1B.3

- NOTES**
- RESISTORS ARE 1/4 WATT, 10% TOLERANCE.
  - CAPACITANCE VALUES OF 1.0 OR GREATER ARE IN PICOFARADS.
  - CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS.
  - \*COMPONENT LOCATED OFF BOARD.
  - COMPONENT RAISED 1/4 IN ABOVE BOARD.
  - COMPONENT LOCATED ON COPPER SIDE OF BOARD.
  - VOLTAGES TAKEN WITH VTM, NO SIGNAL, 120V LINE.
  - WAVEFORMS TAKEN WITH AIR SIGNAL, CONTROLS SET FOR NORMAL OPERATION, 120V LINE.

Q402	D602	D602	R408	R417
610241-1	610242-1	610242-1	47K 5%	8.2K 5%
610242-1	610242-1	610242-1	5.1K 5%	7.5K 5%

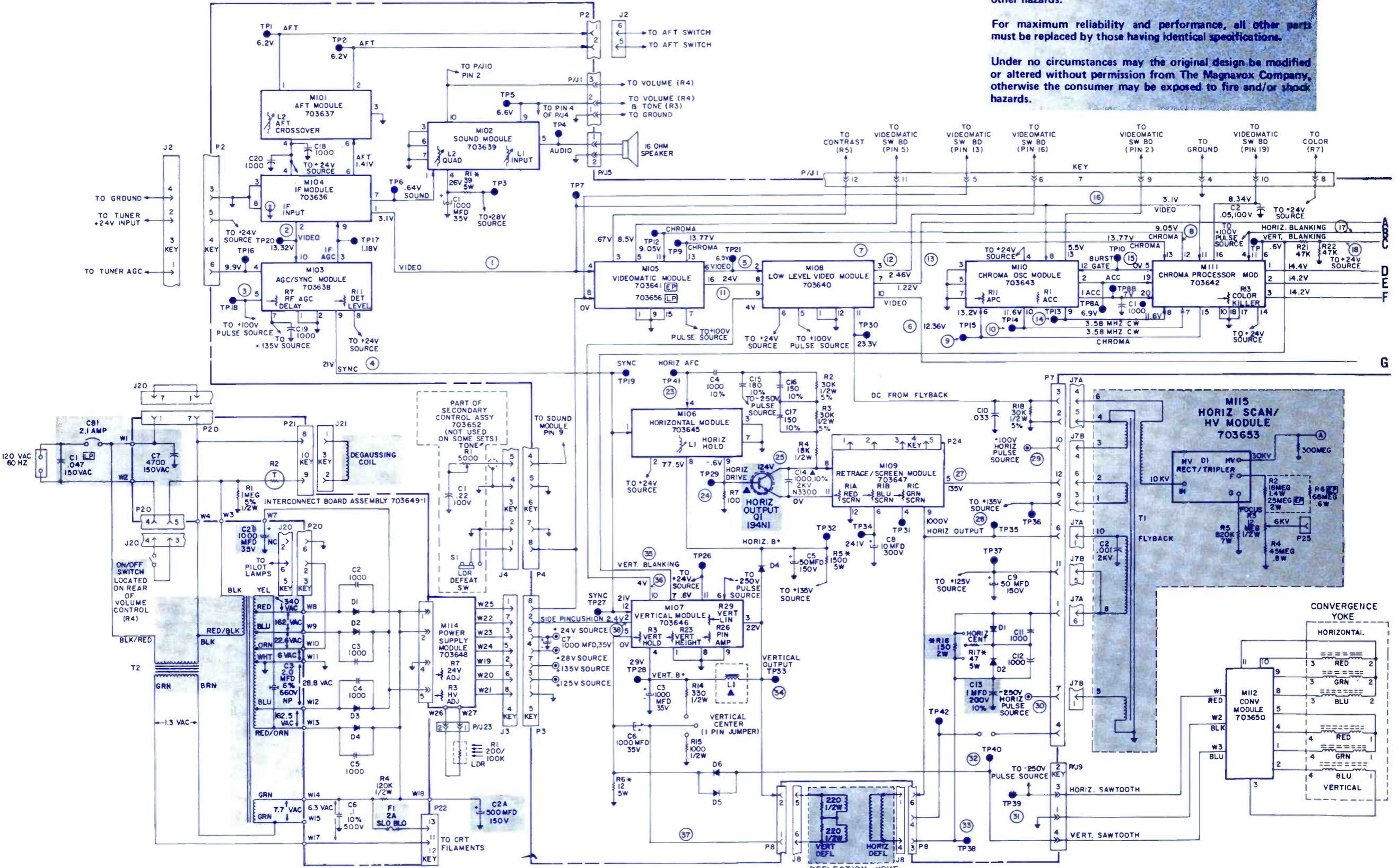
**MAGNAVOX**  
B-W TV Chassis  
T998

Magnavox Consumer Electronics Company is committed to marketing safe products which meet or exceed applicable safety standards of industry, government agencies and independent laboratories. It therefore uses parts in its products designed for maximum safety, reliability and performance.

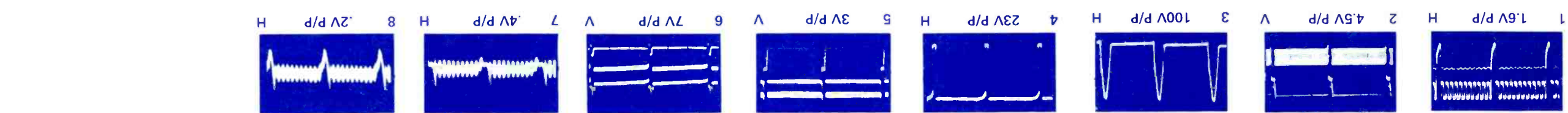
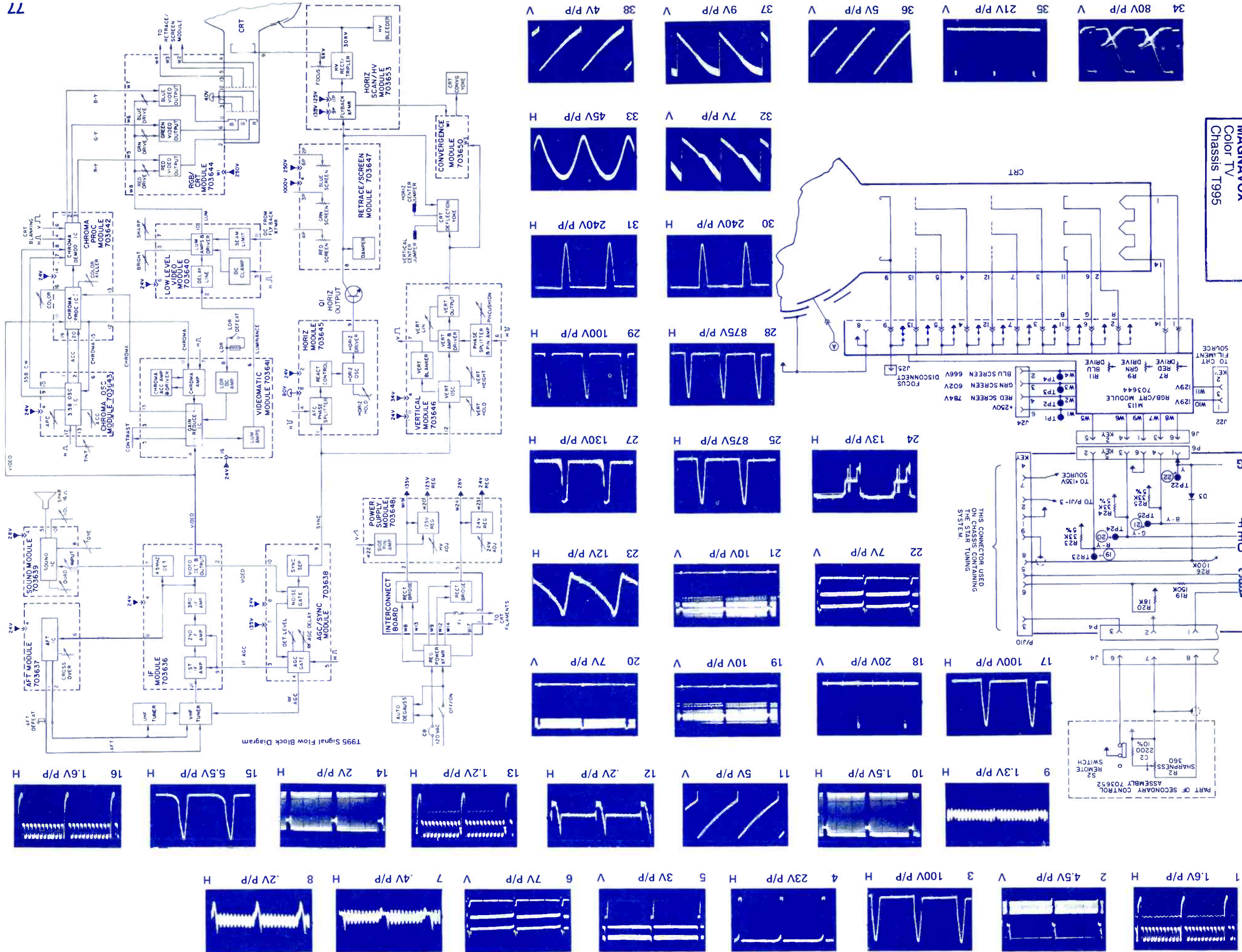
For continued safety of this product, parts shown in the shaded areas of this schematic must be replaced with only those identified in the Parts List of this manual. Use of substitute replacement parts which do not have the same safety characteristics as specified, may create shock, fire or other hazards.

For maximum reliability and performance, all other parts must be replaced by those having identical specifications.

Under no circumstances may the original design be modified or altered without permission from The Magnavox Company, otherwise the consumer may be exposed to fire and/or shock hazards.

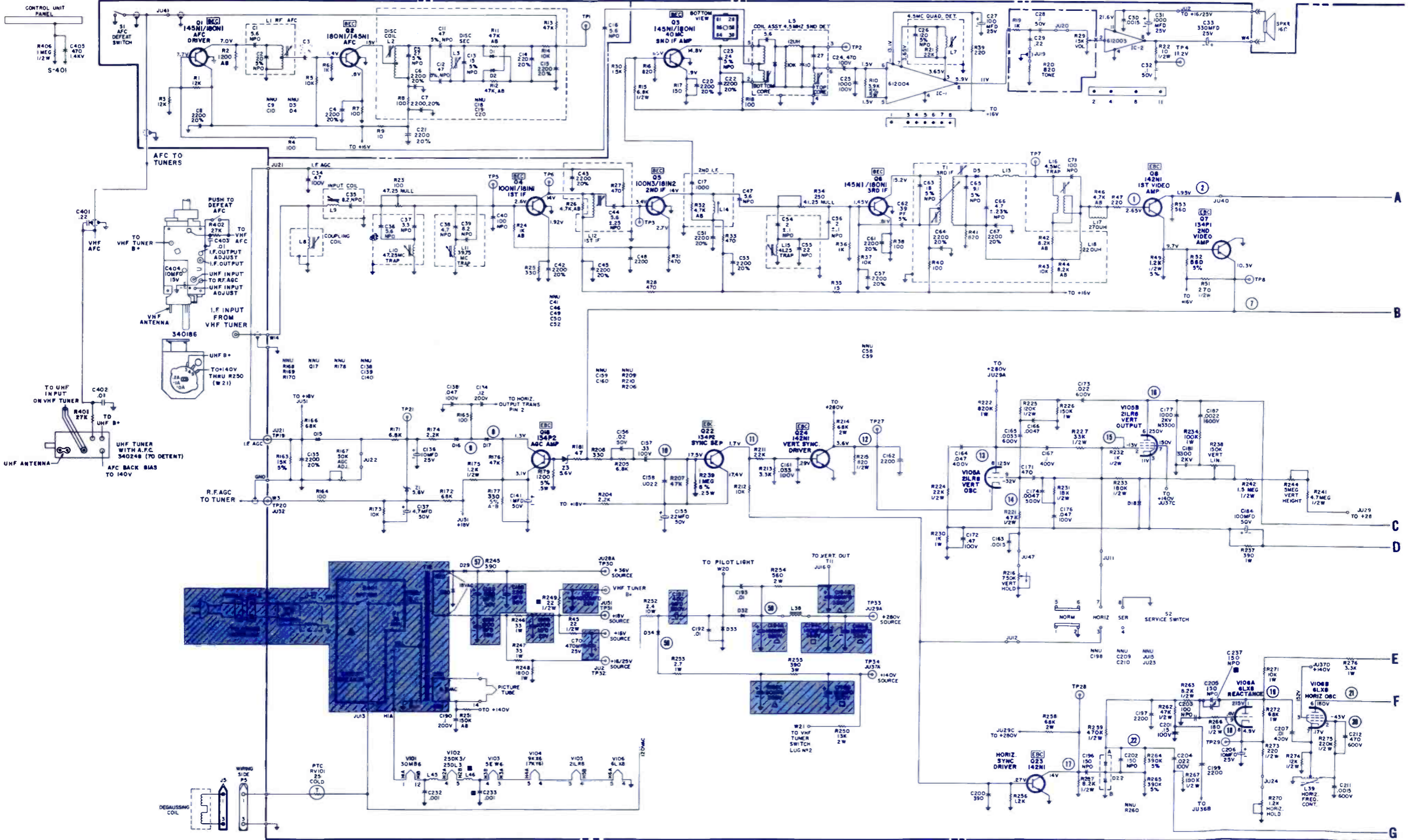
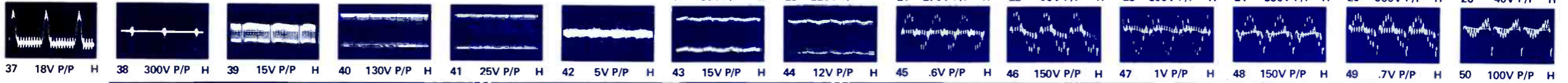


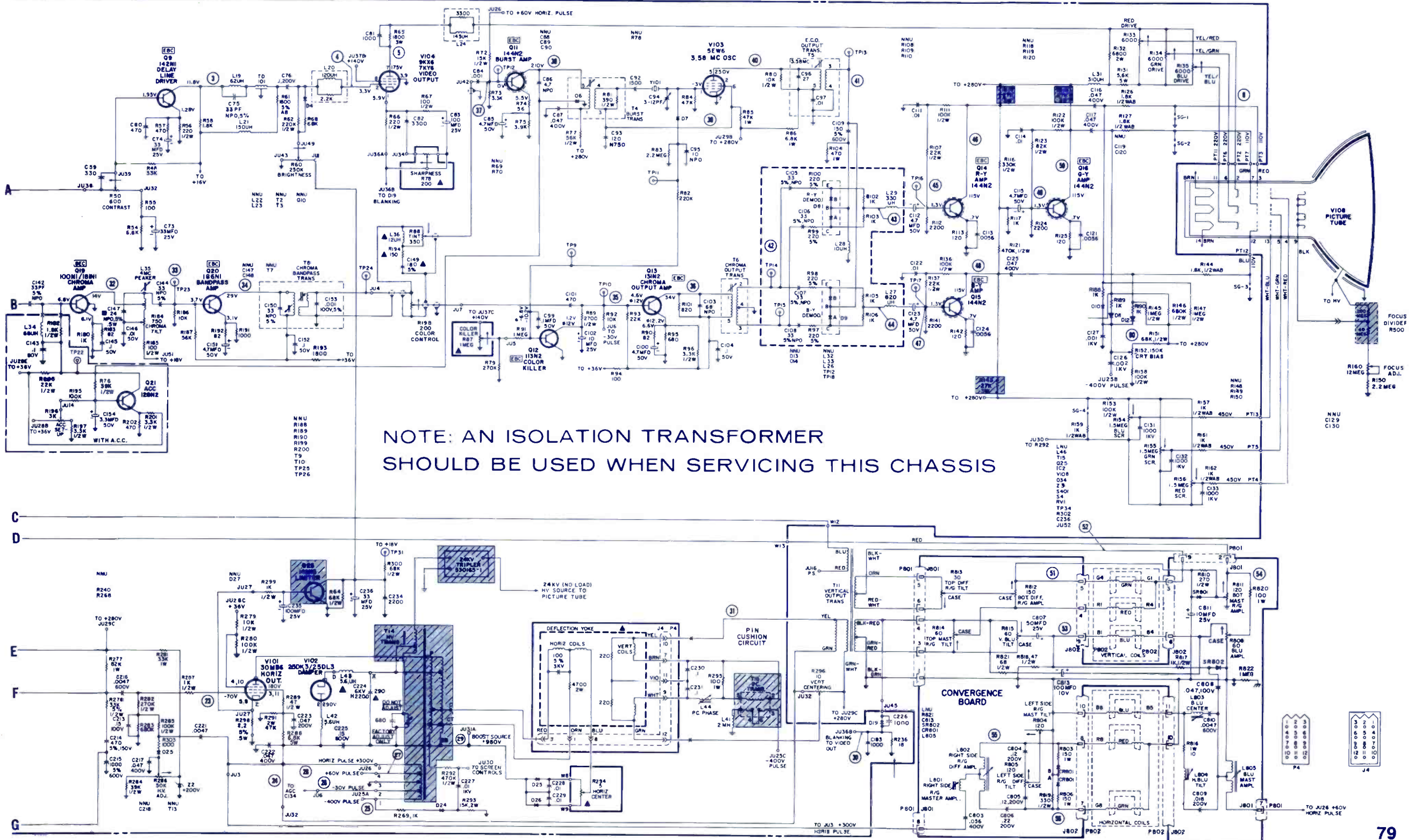
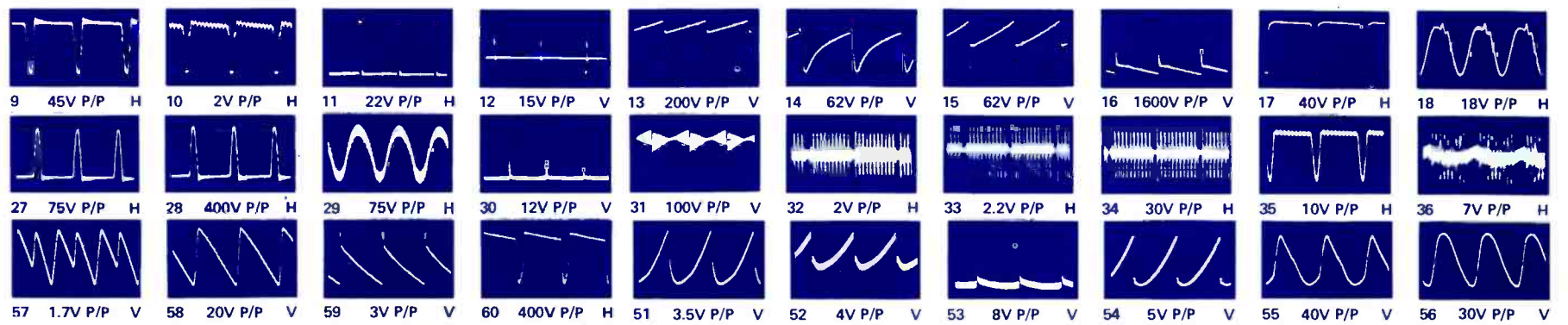
**MAGNAVOX**  
Color TV  
Chassis T995



# MAGNAVOX

Color TV Chassis  
T971



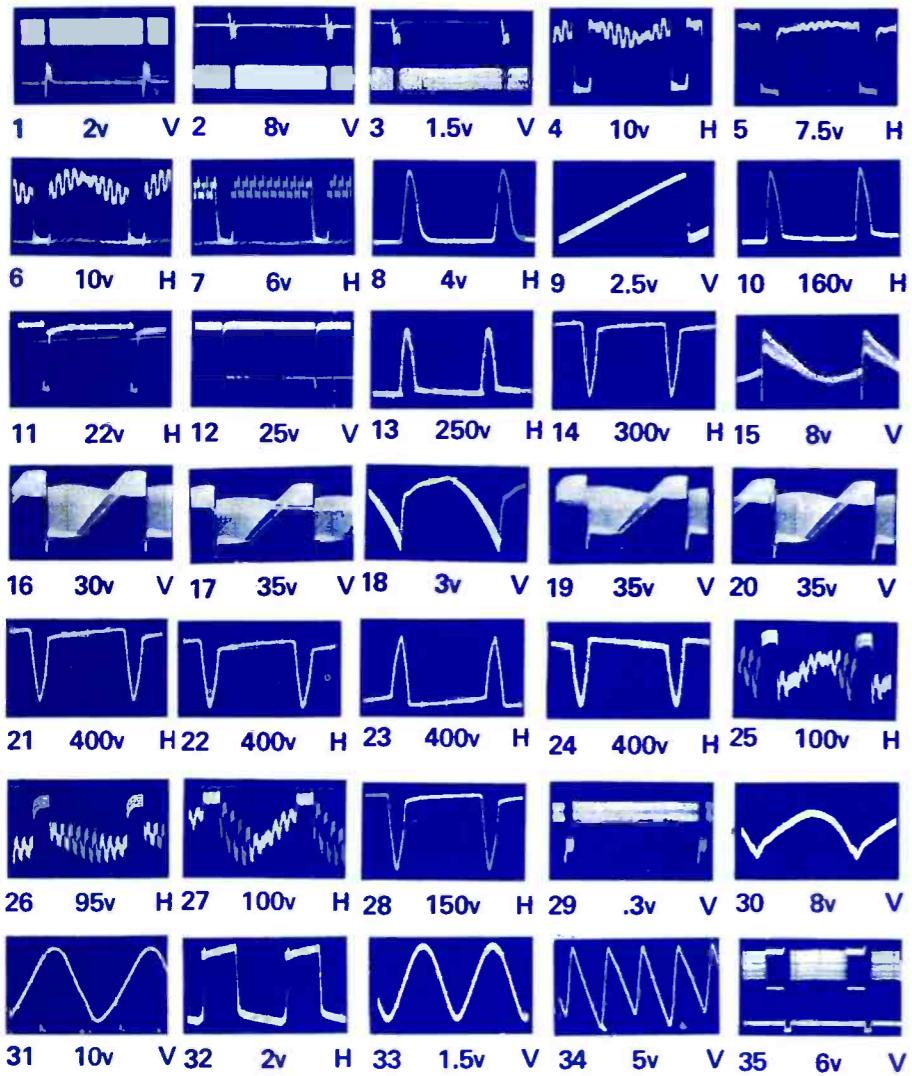


NOTE: AN ISOLATION TRANSFORMER SHOULD BE USED WHEN SERVICING THIS CHASSIS

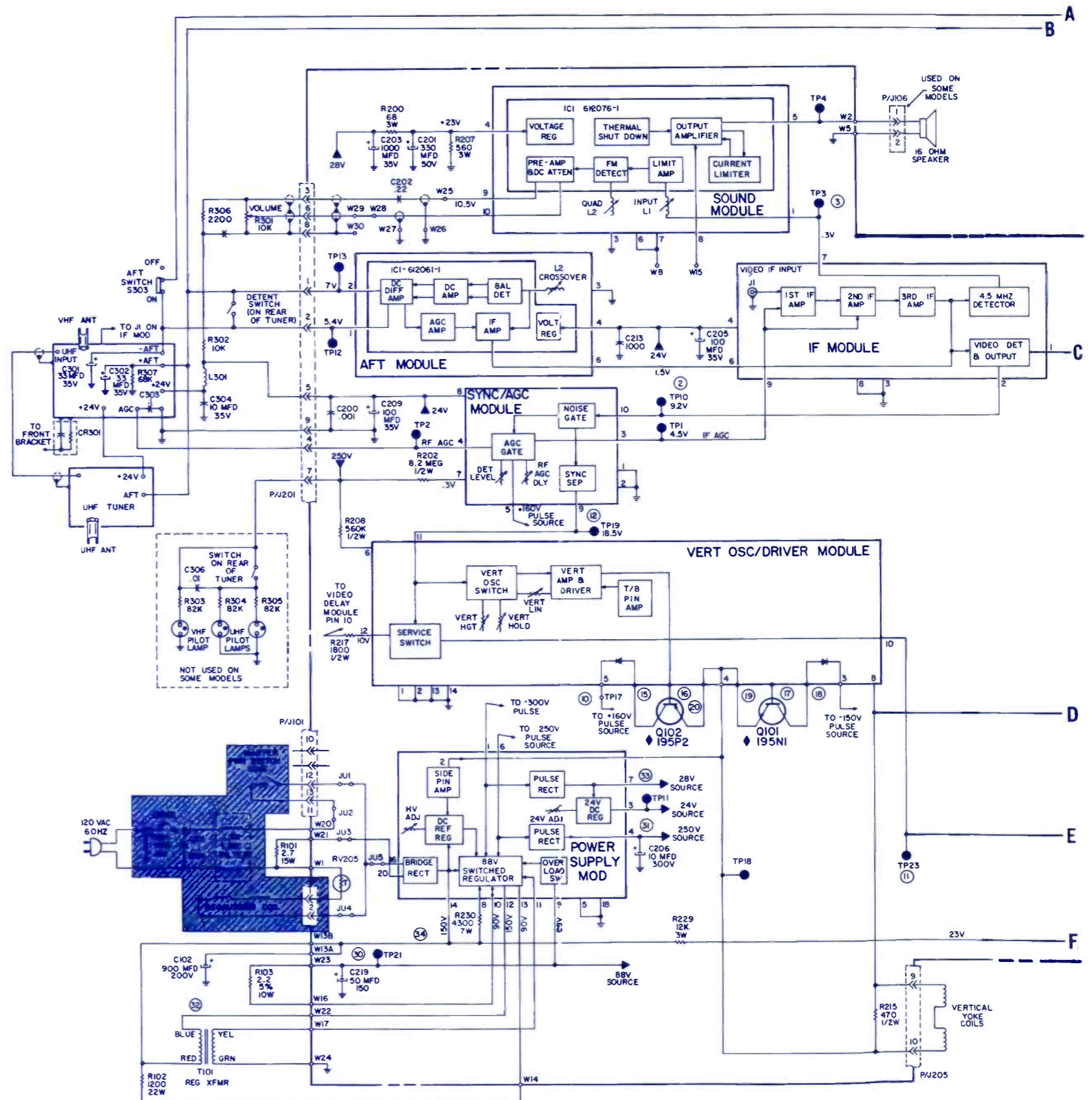
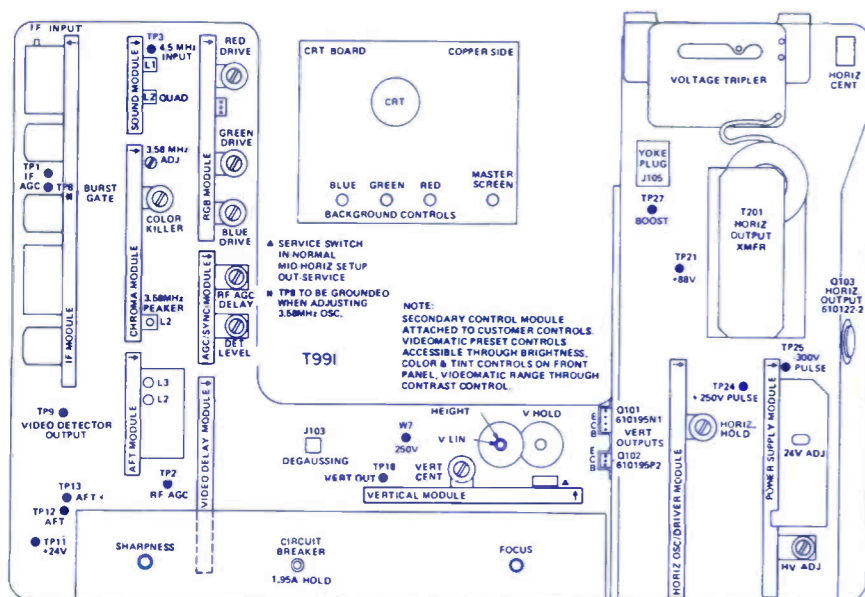


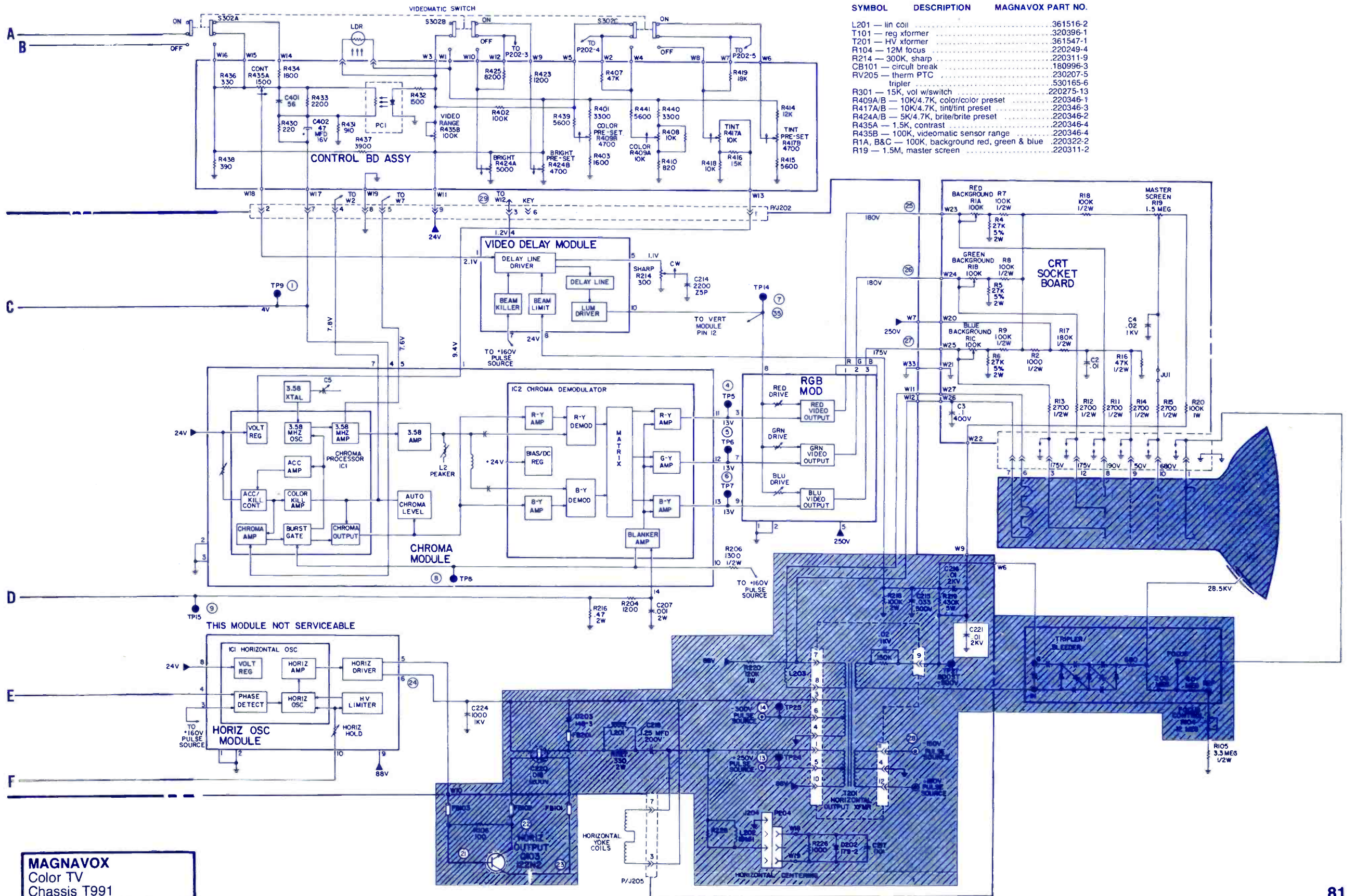
# MAGNAVOX

Color TV  
Chassis T991



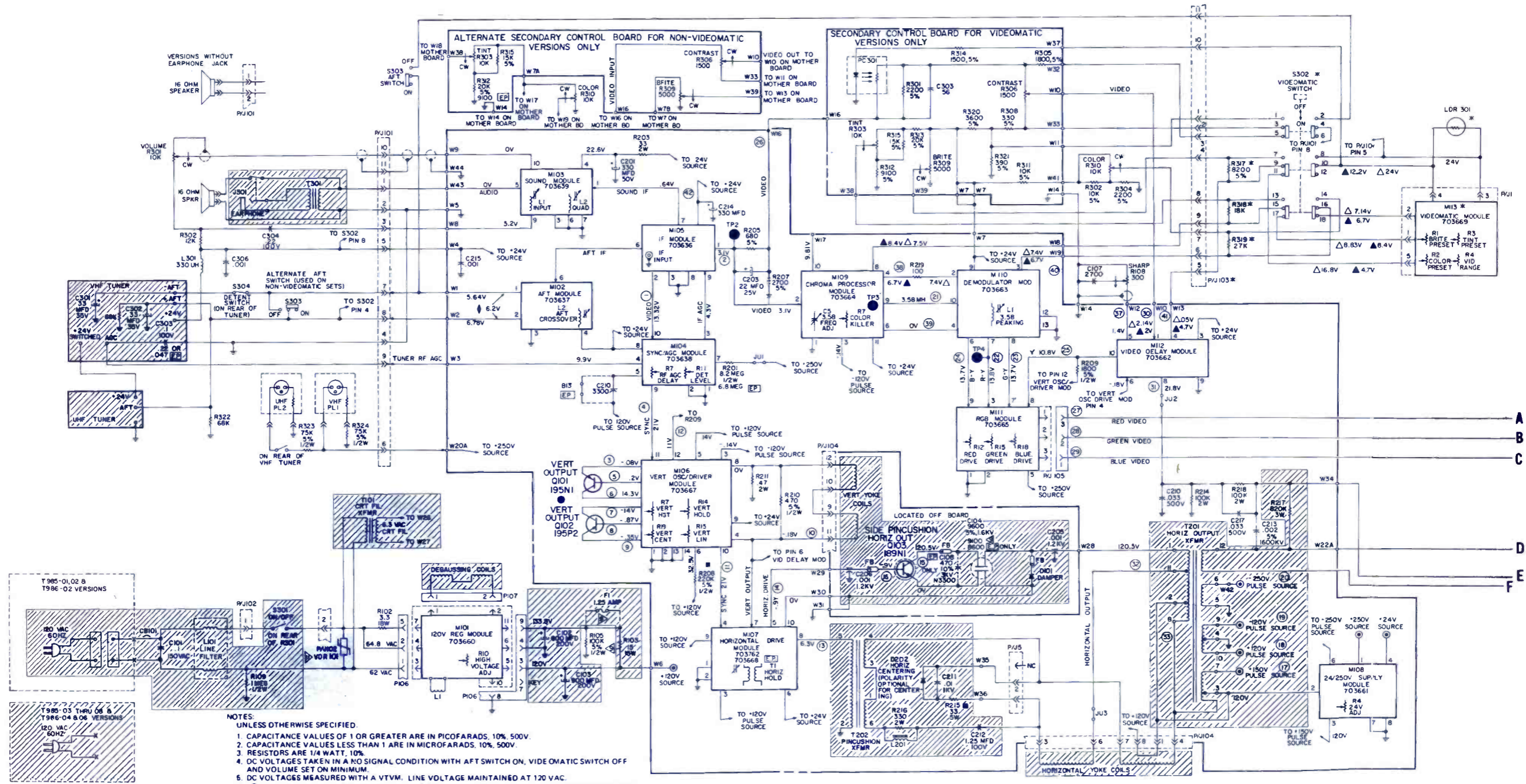
T991 CHASSIS LAYOUT





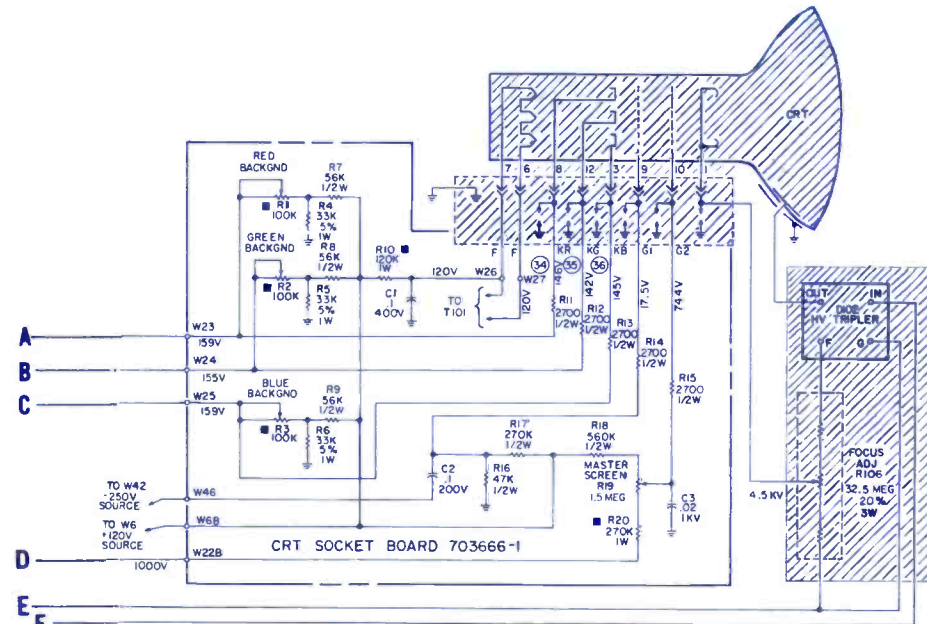
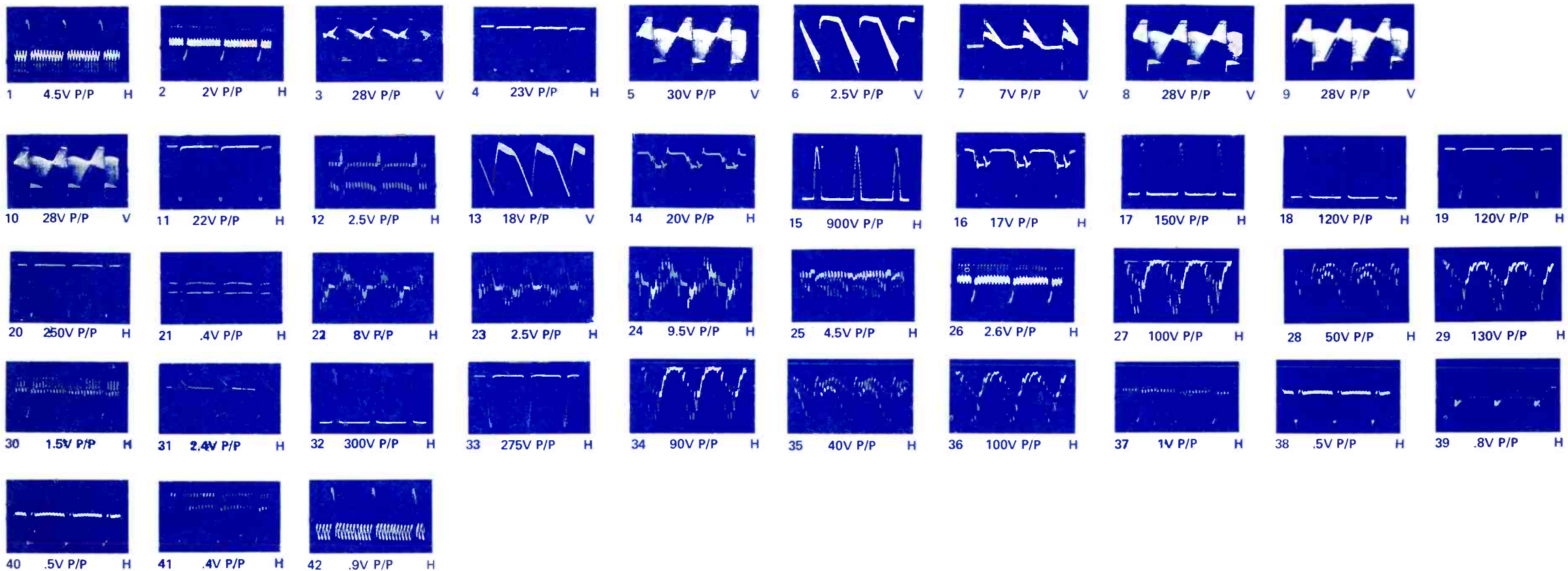
# MAGNAVOX

Color TV Chassis  
T985/T986



- NOTES:**  
UNLESS OTHERWISE SPECIFIED:
1. CAPACITANCE VALUES OF 1 OR GREATER ARE IN PICOFARADS, 10%, 500V.
  2. CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS, 10%, 500V.
  3. RESISTORS ARE 1/4 WATT, 10%.
  4. DC VOLTAGES TAKEN IN A NO SIGNAL CONDITION WITH AFT SWITCH ON, VIDEOOMATIC SWITCH OFF AND VOLUME SET ON MINIMUM.
  5. DC VOLTAGES MEASURED WITH A VTVM. LINE VOLTAGE MAINTAINED AT 120 VAC.
  6. Q101 & Q102 ARE MOUNTED ON A HEAT SINK ON THE BASIC CHASSIS. THEY ARE NOT INCLUDED WITH A REPLACEMENT VERTICAL OSCILLATOR DRIVER MODULE.
  7. ▲ VOLTAGES TAKEN WITH VIDEOOMATIC SWITCH ON. THESE VOLTAGES WILL VARY WITH THE SETTINGS OF THE SECONDARY CONTROLS & THE VIDEOOMATIC PRE-SETS.
  8. ▲ VOLTAGES WILL VARY WITH THE SETTINGS OF THE SECONDARY CONTROLS AND THE VIDEOOMATIC PRE-SETS.
  8. ◆ VOLTAGES TAKEN WITH AFT SWITCH OFF.

- ◆ USED ON T985 CHASSIS ONLY.
- ◆\* USED ON VIDEOOMATIC SETS ONLY.
- ◆ VDR101, used on Early Production T985 07-8B Chassis Only, P.N. 230225-1.
- ◆ PART SHOULD BE ELEVATED 1/4 INCH ABOVE BOARD.



**WARNING**

Magnavox Consumer Electronics Company is committed to marketing safe products which meet or exceed applicable safety standards of industry, government agencies and independent laboratories. It therefore uses parts in its products designed for maximum safety, reliability and performance.

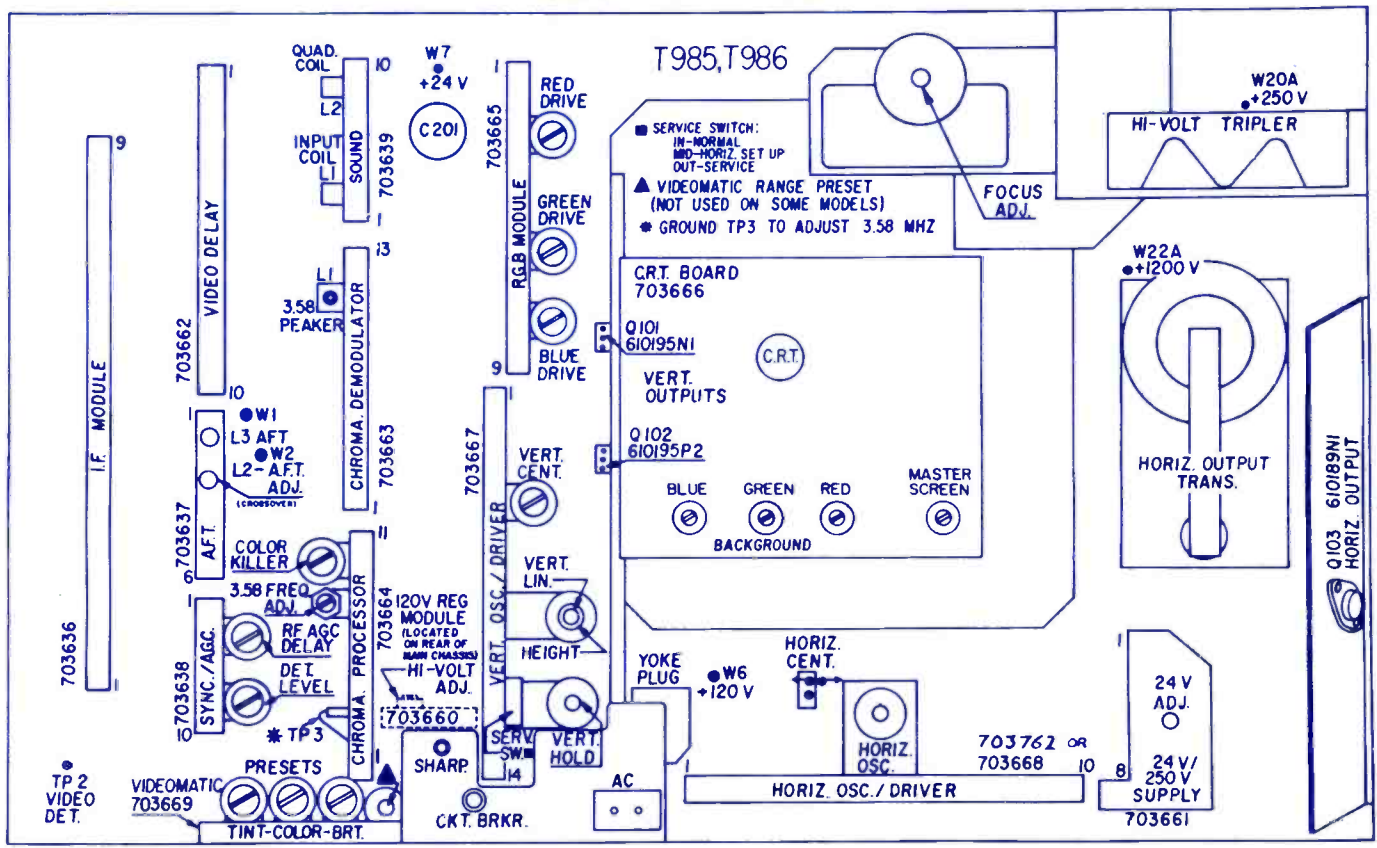
For continued safety of this product, parts shown in the shaded areas of this schematic must be replaced with only those identified in the Parts List of this manual. Use of substitute replacement parts which do not have the same safety characteristics as specified, may create shock, fire or other hazards.

For maximum reliability and performance, all other parts must be replaced by those having identical specifications.

Under no circumstances may the original design be modified or altered without permission from The Magnavox Company, otherwise the consumer may be exposed to fire and/or shock hazards.

**MAGNAVOX**  
Color TV Chassis  
T985/T986

**T985/T986 CHASSIS LAYOUT (FROM REAR OF SET)**

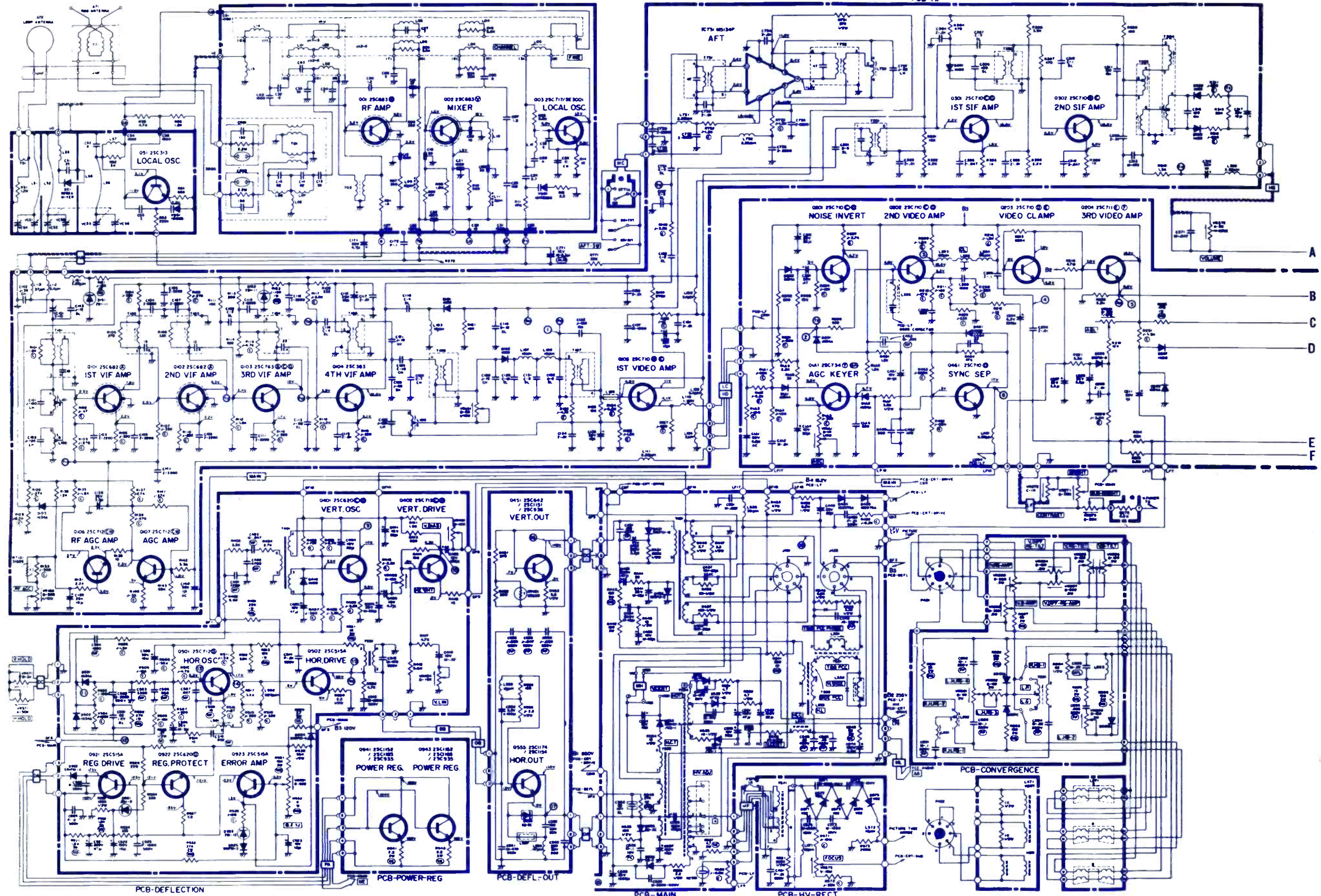


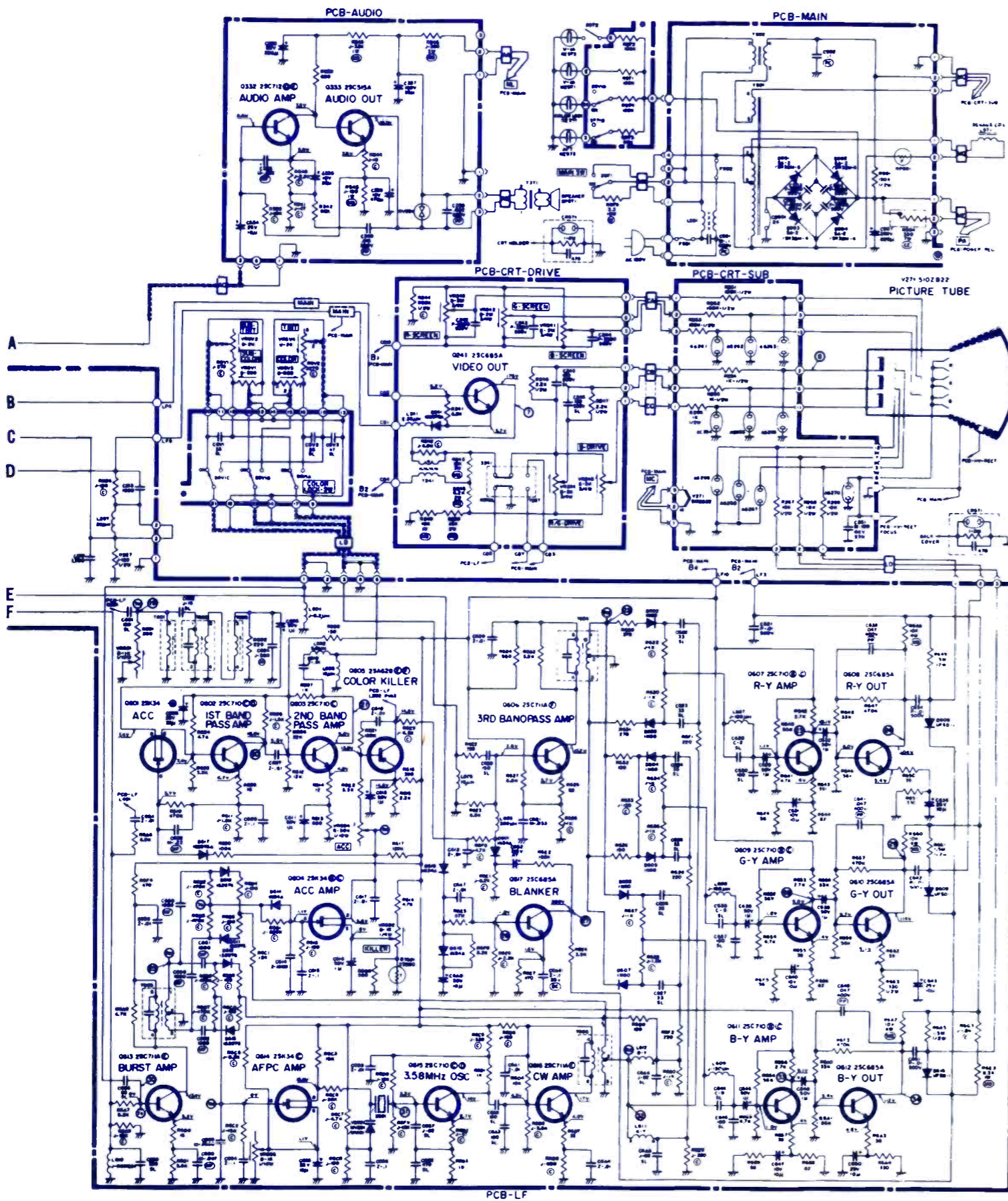
**MGA**  
Color TV Model  
CS-195

SYMBOL	DESCRIPTION	MGA PART NO.
T301	— sound IF	327P02002
T371	— audio output	352P01402
T401	— vert osc	328P00302
T431	— vert output	329C01901
T501	— horiz drive	336P00503
T533	— HCT	409B00401
T534	— HOT	336B00202
T571	— flyback	334P05802

T601	— chroma takeoff	349P03301
T604	— chroma output	349P03601
T605	— chroma burst	349P03701
T901	— power	350P03501
L471	— deflect yoke	330P02903
VR271	— double B- 30K brite	122C15001
VR272	— double C- 1K contrast	122C15002
VR372	— STD A- 5K vol UL	120C13104
VR471	— double B-2K vert hold	122C15001

VR571	— double A- 50K horiz hold	122C15002
VR572	— double B- 15M focus	129P00401
VR603	— semifixed B- 1K, 1/10w color	129D02503
VR6V1	— twist B- 500 ohm sub-color	121C03001
VR6V2	— slide B- 500 ohm color	129C01901
VR6V3	— E - 2K sub-tint	121C03507
VR6V4	— slide U- 2K tint	129C01908
CB901	— circuit breaker 2.0a	287C00202
F571	— fuse 1a	283D01801





**NOTE 1:**

- The unit of resistance "ohm" entirely omitted. Accordingly, K=1000 ohms, M=1000K ohms.
- The wattage of resistor, not specifically designated, is 1/4 watt.
- Resistors, not specifically designated, are: Fixed Composition resistors (Solid type)
- The marks of resistors are as follows:
  - Ⓞ : Fixed carbon film resistor.
  - Ⓢ : Cemented resistor.
  - Ⓟ : Fusible resistor.
  - Ⓜ : Fixed composition resistor, hermetic shield
  - ⓂT : Fixed carbon resistor (type HT)
  - ⓂA : Metal oxide film resistor (type A)
  - ⓂB : Metal oxide film resistor (type B)
  - ⓂW : Wire wound resistor.
- The tolerance of resistor value, not specifically designated, is: ±10%, J=±5% M=±20%
- The unit of capacitance, not specifically designated, is:
  - a) μF, for numbers less than 1
  - b) PF, for numbers more than 1
- Capacitors, not specifically designated are: Ceramic capacitors except electrolytic capacitors.
- The marks of capacitors are as follows:
  - Ⓢ : Cellulose film capacitor
  - Ⓜ : Mica film capacitor
  - ⓂP : Polyester film capacitor
  - ⓂMP : Metalized polyester film capacitor

- ⓂP : Fixed metalized paper capacitor
  - ⓂA : Paper capacitor (type A)
  - ⓂC : Paper capacitor (type C)
  - ⓂP : Polypropylene film capacitor
  - ⓂP : Polystyrene film capacitor
  - ⓂS : Styrol capacitor
  - ⓂE : Electrolytic capacitor
- Mark Ⓜ and ⓂE indicate 1 block capacitor respectively.

- The DC work voltage of capacitor, not specifically designated is:
  - a) 400V for paper capacitors
  - b) 50V for other kinds of capacitors
- The tolerance of capacitor value, not specifically designated, except the electrolytic capacitor is: ±10% J=±5% M=±20%  
 $P = \frac{100}{C} \%$ ,  $C = \pm 25PF$ ,  $D = \pm 5PF$ ,  $F = \pm 1PF$
- Ceramic capacitors with the marks RH, UJ, SL etc. are temperature compensating types.

**NOTE 2:**

- DC voltages are measured from points indicated to the circuit ground with a VTVM.
- Line voltage at 120V AC on signal applied.
- Waveforms are taken with controls set for a normal picture.

**SPECIFICATIONS**

Power Input	----- AC 120V 60 Hz
Power Consumption	--- 160 W
Channels	----- VHF ch 2 ~ ch 13 UHF ch 14 ~ ch 83
Antenna	----- VHF Dipole Antenna, balanced 300 Ω UHF Loop Antenna, balanced 300 Ω
Intermediate Frequency	----- Video 45.75 MHz Sound 41.25 MHz
Audio Output	----- 2W
Speaker	----- 4" Round Type
Picture Tube	----- 510ZB22A 19" 90° Deflection Shell-bond Type
Semiconductor	
Integrated Circuit	----- 1
Transistors	----- 50
Diodes	----- 68
Thermistors	----- 3
Posistor	----- 1
Varistor	----- 1
Cabinet Dimensions	----- 25 1/4"(W) x 21 1/2"(D) x 19 3/16"(H)
Weight	----- 78.7 lbs.

**MGA**  
Color TV Model  
CS-195

# PANASONIC

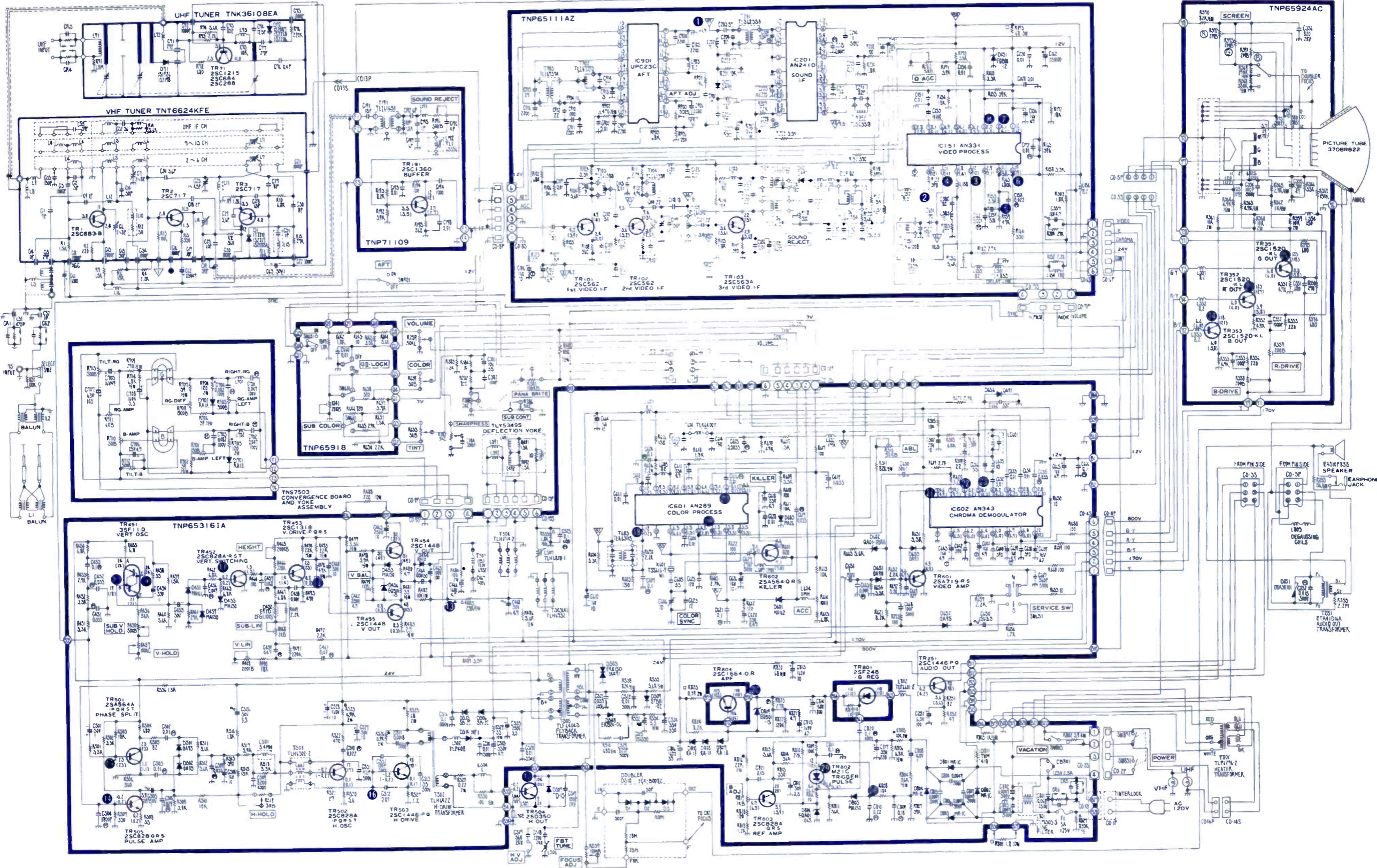
Color TV Model  
CT-324

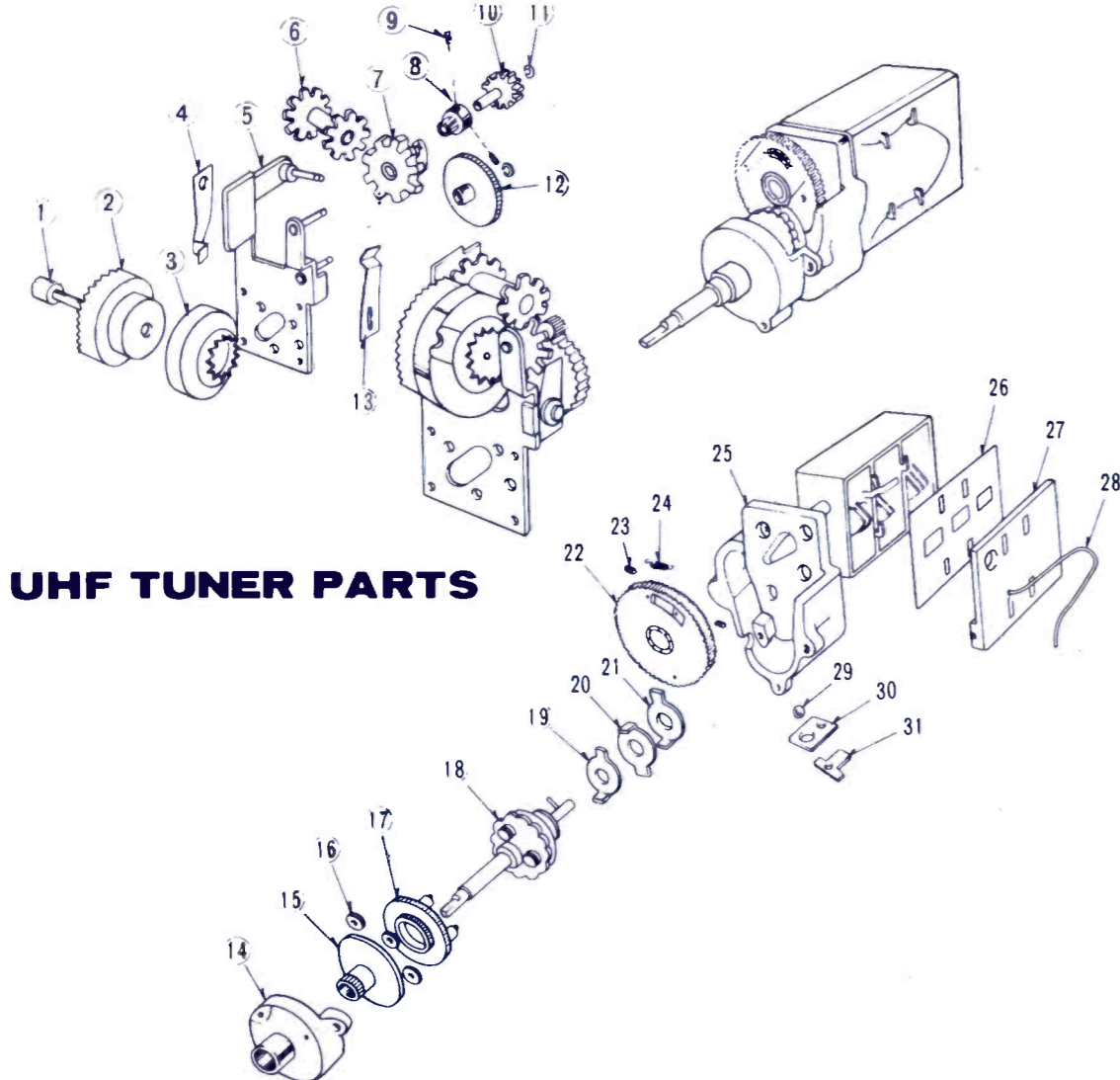
2SC1446 2SC1448	2SC828 2SC828A 2SC1360 2SC1318	75A719 2SA564 2SA564A	2SC562 2SC563A	2SD350	M21C	3SF-11	2SF248 2SC1664
							T103, T104, T105, T106, T151, T201, T202, T602, T604, T902, T903
							L106

### NOTICE

- RESISTOR**  
All resistors are carbon (AWR) resistors, unless otherwise noted.  
Units of resistance: Ohm (Ω), K=1,000, M=1,000,000.  
  - Solid resistor
  - Metal oxide resistor
  - ◇ Wire wound resistor
  - ⊖ Thermistor
  - ⊕ Fuse resistor
- CAPACITOR**  
All capacitors are ceramic 50V capacitor, unless otherwise noted.
- COIL**  
Units of inductance is μH.
- TEST POINT**  
Test point position TP42.
- VOLTAGE MEASUREMENT**  
Voltage is measured by a volt ohm meter with DC 20K Ohm/V.

- RECOVERING COLOR BAR SIGNAL**  
When all controls are set to the maximum position.
- Number in red circle indicates** location number. (See main manual.)
- When arrow mark (→) is found** connection is easily found along with the direction of an arrow.
- When schematic diagram of a board is described in more than two places**, they are encircled with dotted line.
- This schematic diagram is the latest of the time of printing and subject to change without notice.**





# UHF TUNER PARTS

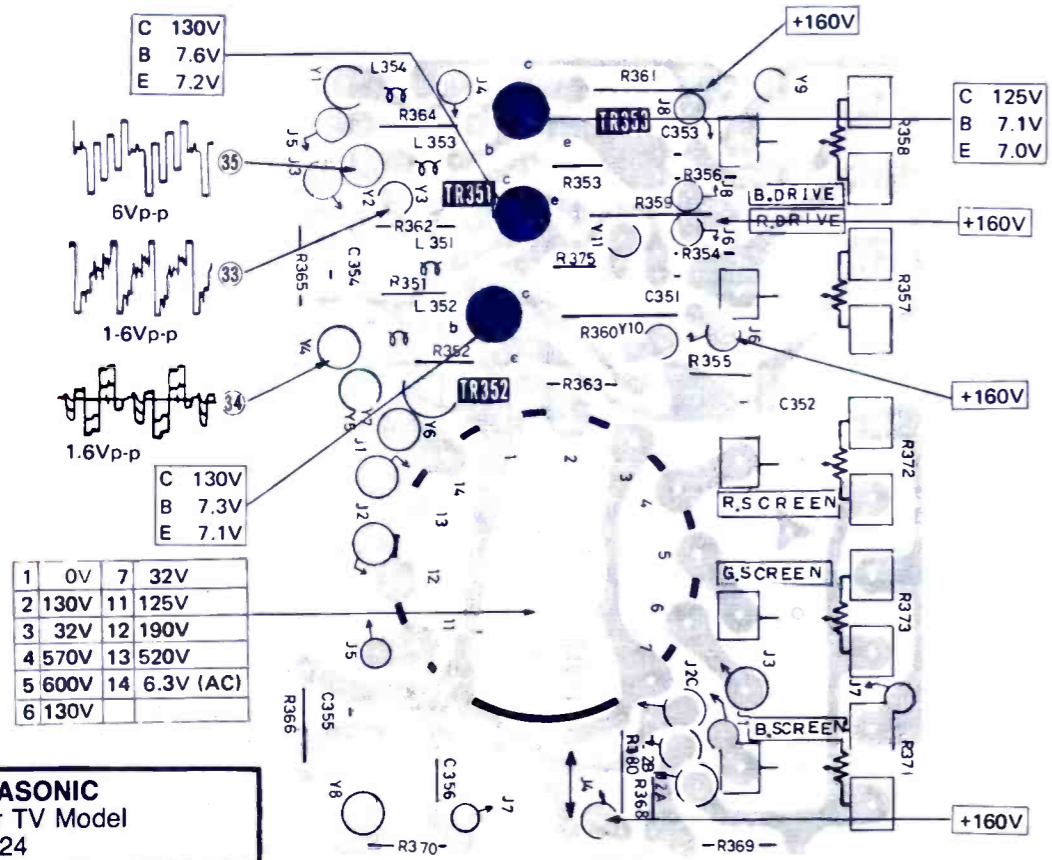
SYMBOL	DESCRIPTION	PANASONIC PART NO.
R118	— sound reject 500 ohm B	EVLR6BA00B52
R182	— delayed AGC 5K B	EVTVOUOOMB53
R903	— AFT adj. 50K B	EVLR6BA00B54
R820	— fuse resist 68 ohm ± 5%	ERQ12HJ680
R450	— sub Vertical-hold 50K B	EVT33BA00B54
R465	— height 200K B	EVTJOUS15B25
R468	— sub Vertical-lin 2K B	EVT33BA00B23
R469	— Vertical-lin, 200K B	EVTJOUS15B25
R479	— Vertical-balance 1K B	EVT33BA00B13
R614	— ACC 10K B	EVT33BA00B14

H817	— B+ adj. 1K B	EVT33BA00B13
R610	— kill 10 K B	EVTJOUS15B14
L502	— choke coil	TLP408
T505	— flyback xformer	TLF6404S
FI	— fuse	TSF35503
R220	— sound control 50K L	
R259	— sound control 50K L	EVA85A06A54L
R380	— bana-brite 100K B	EVX59AF25550
R381	— 2ohm C	
R386	— sub contrast control 5K C	EVV58AF25C53
R387	— sharpness control 5K C	EVV85AF25C53

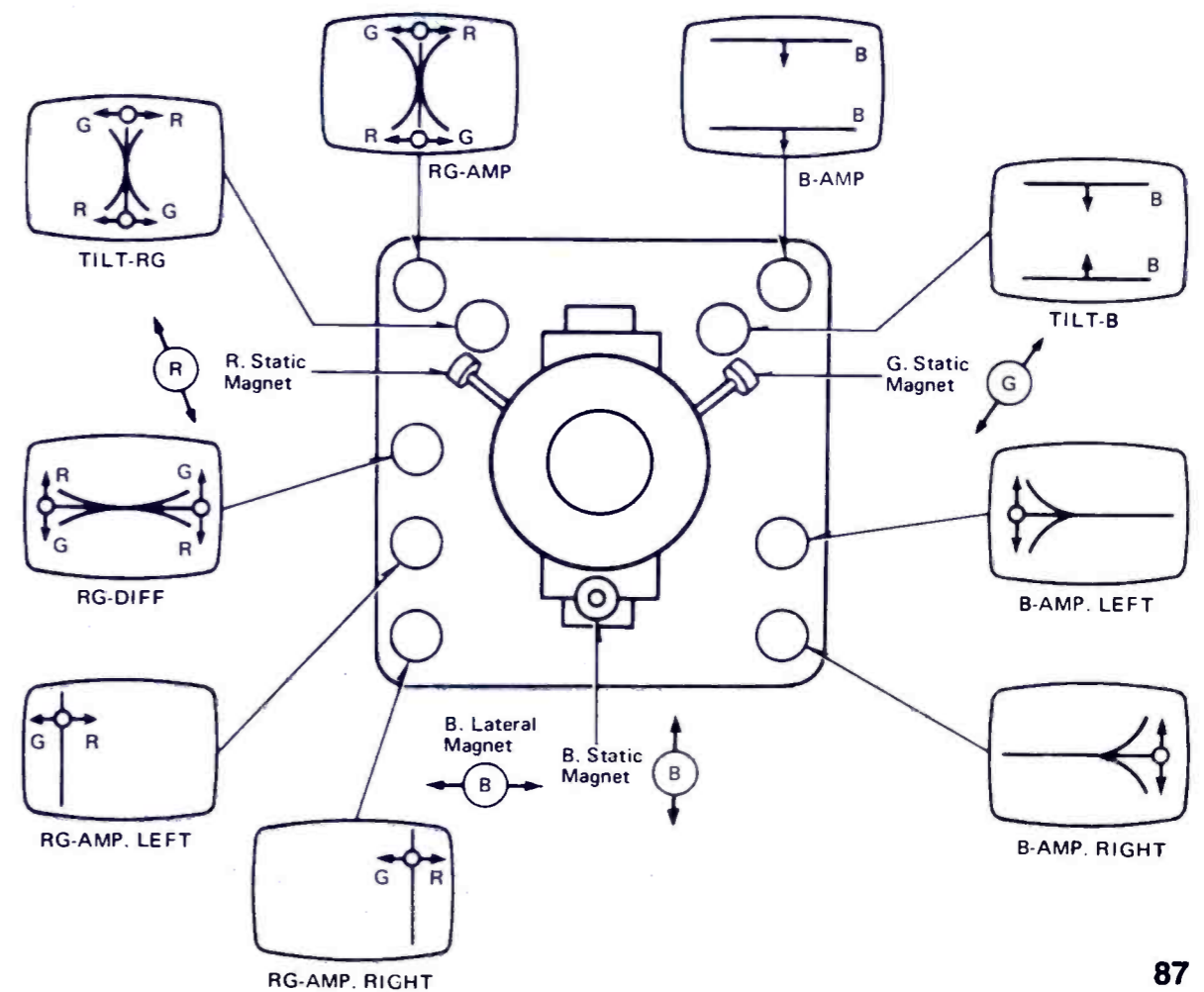
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
<b>UHF TUNER (TNK36108EA) PARTS</b>					
A		Indicator Ass'y DM-01B	15	DM01-0007-00	Indicator Shaft DM-01A
1	DM01-0051-00	Supporter DM-01A	16	DM01-0015-00	Pinion Gear DM-01B
2	DM01-0074-00	Indicator Drum DM-01D	17	DM01-0006-00	Indicator Gear DM-01A
3	DM01-0073-00	Indicator Drum DM-01C	18	DM05-0002-00	Shaft Assembly DM-01B
4	DM01-0044-00	Indicator Spring DM-01A	19	N8-827-07	Stopper 07
5	DM05-0005-00	Indicator Bracket Assembly CM-01B	20	DM01-0017-00	Stopper DM-01B
6	DM01-0046-00	Geneva Stop DM-01A	21	DM01-0018-00	Stopper DM-01C
7	DM01-0070-00	Idle Gear DM-01C	22	DM05-0013-00	Double Gear Assembly
8	DM01-0071-00	Hub Gear DM-01C	23	N15-812-11	Screws
9	N15-812-11	Screw	24	N9-814-02	Double Gear Spring 02
10	DM01-0071-00	Hub Gear DM-02C	25	DM01-0002-00	Housing DM-01B
11	N17-818-04	E-Ring	26	UY01-0047-00	Inner Cover UY-01A
12	DM01-0069-00	Idle Gear DM-02B	27	UY01-0026-00	Cover UY-01A
13	DM01-0045-00	Indicator Spring DM-01B	28	UY01-0027-00	Cover Spring UY-01A
B		Complete Tunern	29	N7-811-03	Ball 03
14	DM01-0001-00	Housing DM-01A	30	DM01-0062-00	Detent Spring DM-03A
			31	DM01-0063-00	Spring Retainer DM-01A

# CONVERGENCE ALIGNMENT

Convergence board of CT-324 is different from that of CT-914. Proceed with the steps as shown



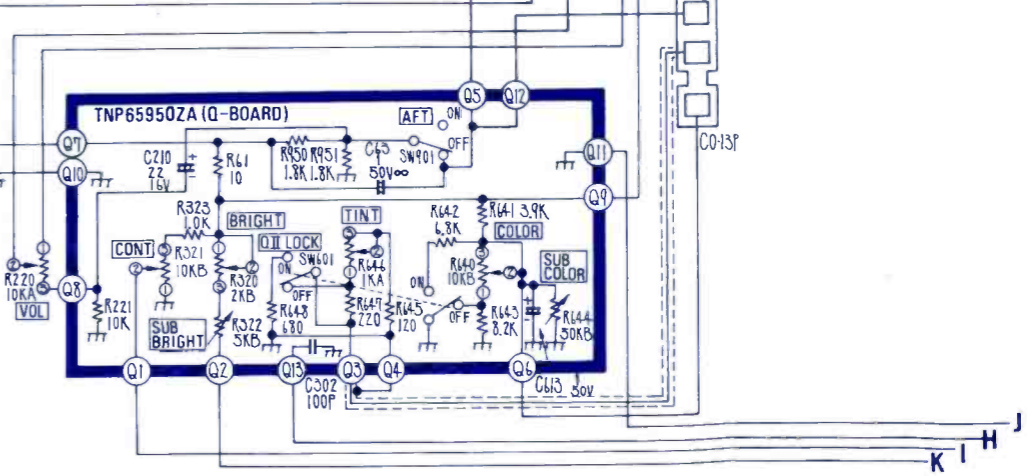
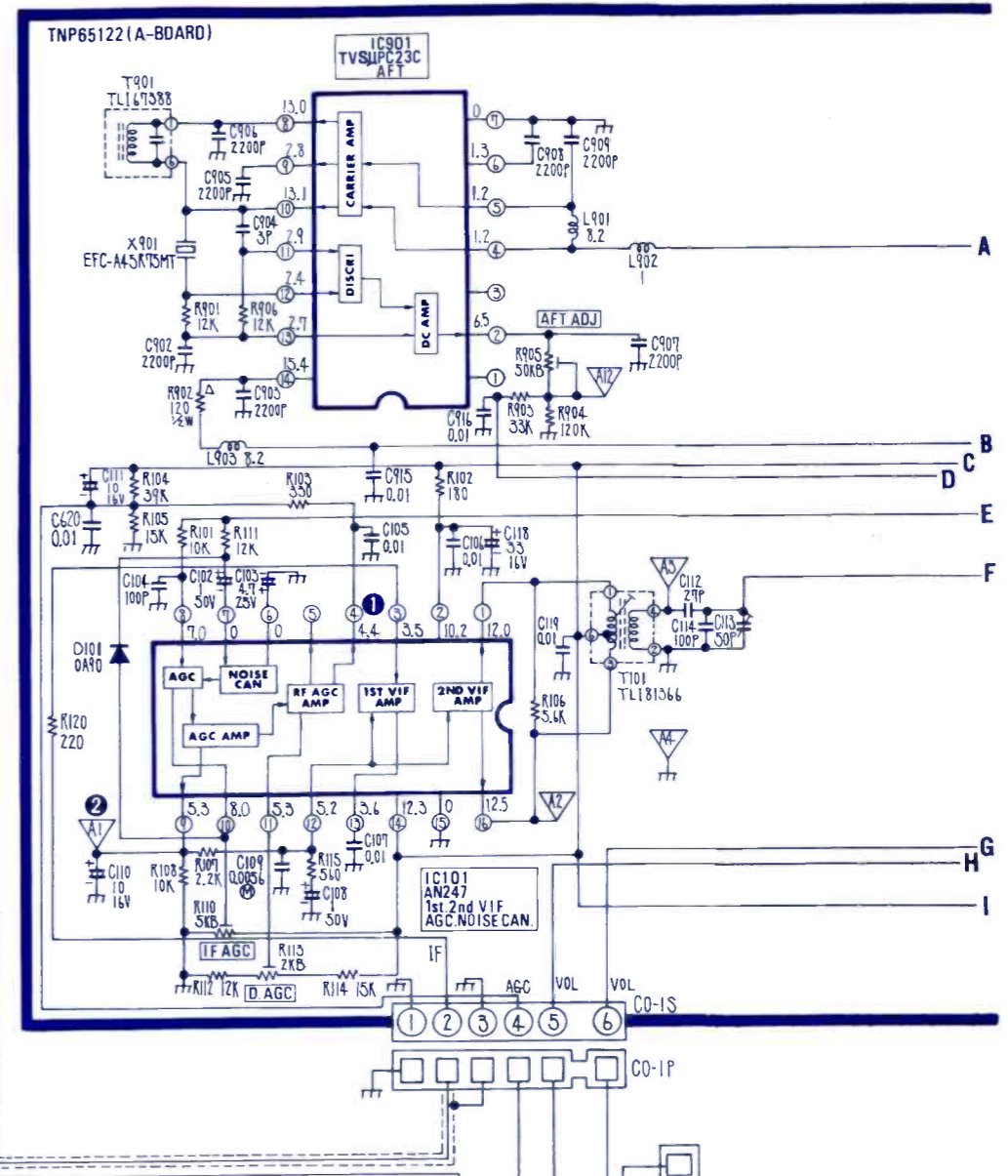
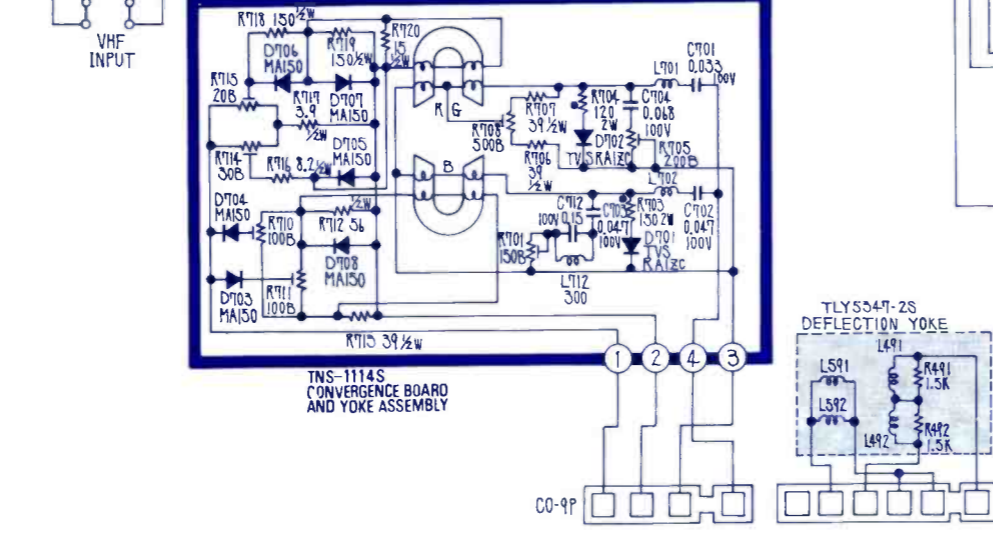
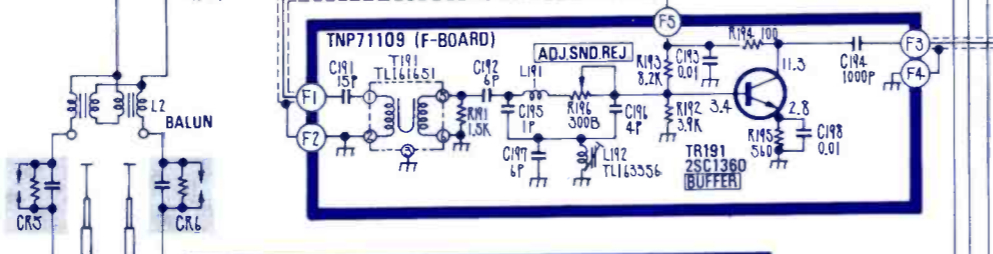
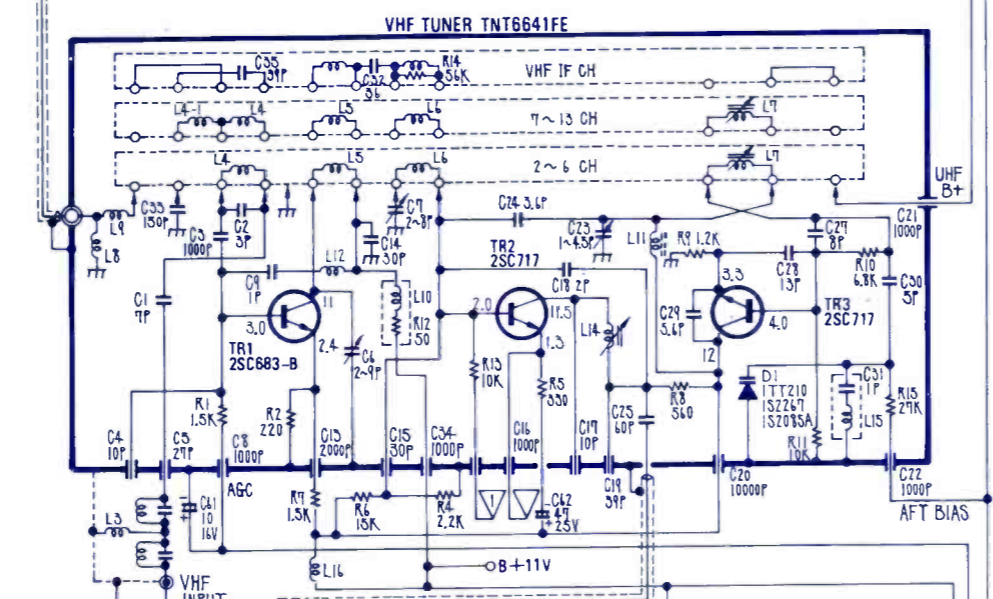
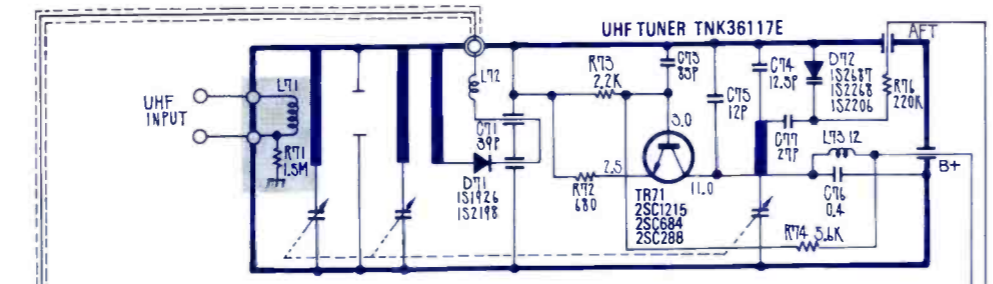
**PANASONIC**  
Color TV Model  
CT-324

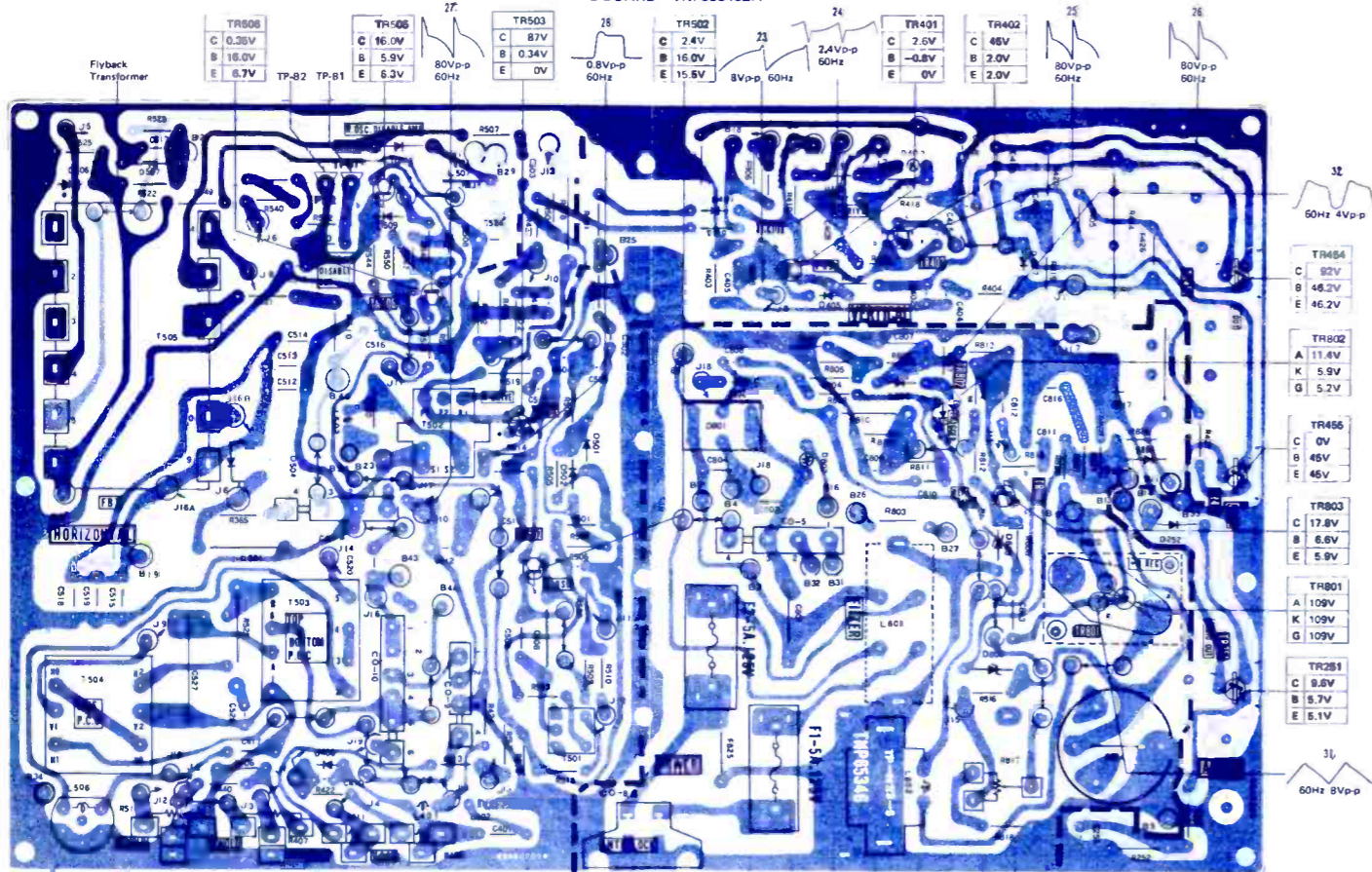




**PANASONIC**  
Color TV  
Chassis  
NMX-P3A

	L106 T103 T104 T106 T151 T201 T202 T603 T604 T902 T903	2SC1550 2SC1556
	T107	3SF11
	2SA564 2SA564A 2SA719 2SC828 2SC828A 2SC829 2SC1215 2SC1317 2SC1318 2SC1360 2SC1384 2SC1685 2SC1686 2SC1688	2SC1664 2SF248 2SF1168
	2SB547 2SC1446 2SC1448 2SC1507 2SD402	M21C
	2SA483 2SA766 2SC582 2SC647 2SC783 2SC1450 2SD198 2SD199 2SD201 2SD226A 2SD299 2SD334 2SD350 2SD380	M23C
	2SA636 2SC1226A 2SC1620	2SC717
	2SC562 2SC563A	2SC683
		2SA550A 2SC1012 2SC1012A





**NOTICE**

- RESISTOR**  
All resistors are carbon 1/4W resistor, unless otherwise noted the following marks.  
Unit of resistance is OHM (Ω), 1K 1,000, M 1,000,000.  
  - Solid resistor
  - Metal oxide resistor
  - Wire wound resistor
  - ⊖ Thermistor
  - ⊕ Fuse resistor
- CAPACITOR**  
All capacitors are ceramic 50V capacitor, unless otherwise noted the following marks. Unit of capacitance is μF, unless otherwise noted.  
  - M Polyester capacitor
  - S Polystyrene capacitor
  - ⊖ Electrolytic capacitor
- COIL**  
Unit of inductance is μH.

**4. TEST POINT**

▽ : Test point position (TPA2)

**5. VOLTAGE MEASUREMENT**

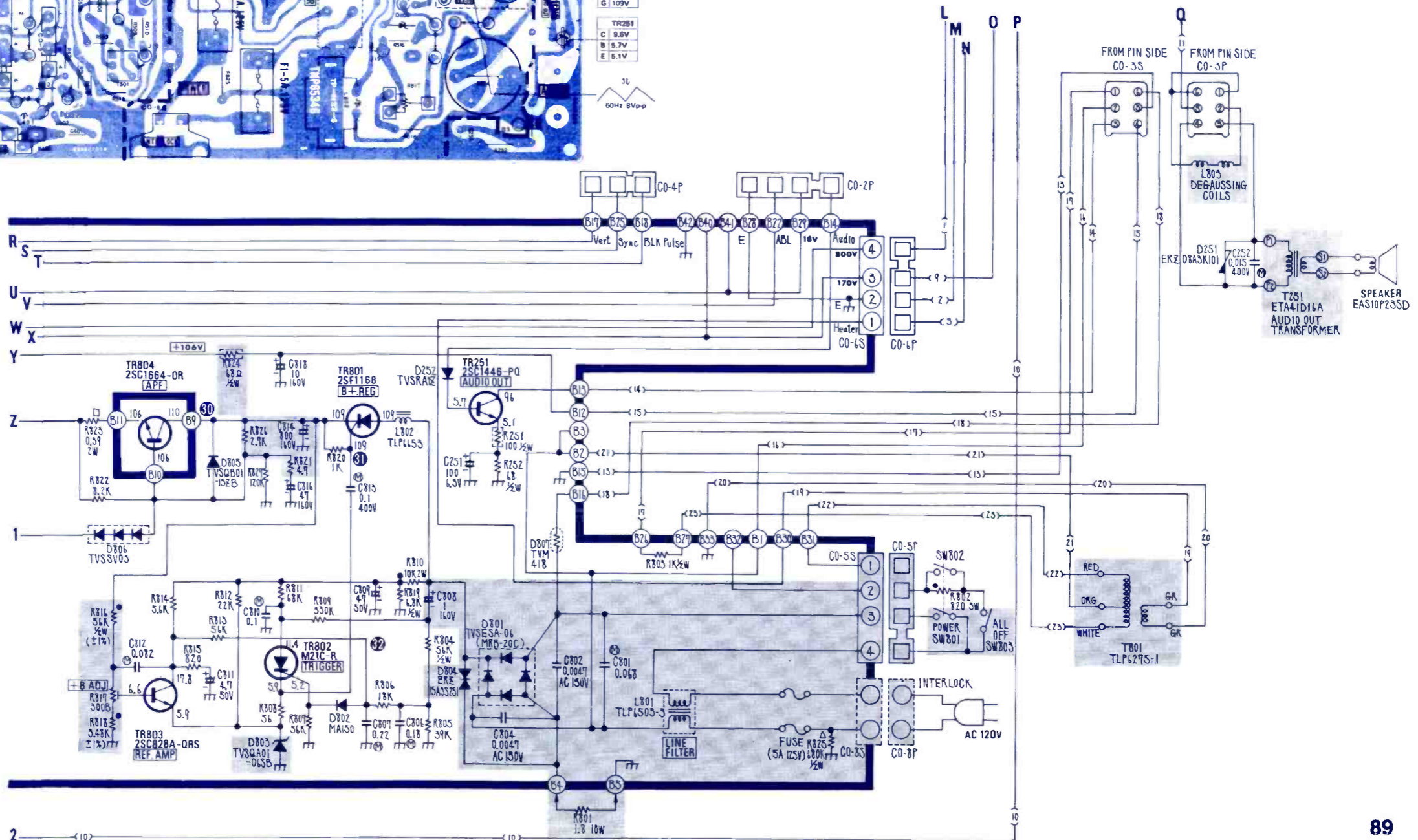
Voltage is measured by a volt ohm meter with DC 20K OHM/V receiving color bar signal, when all controls are set to the maximum position.

6. Number in red circle indicates waveform number. (See main manual.)  
7. When arrow mark is found, connection is easily found along with the direction of an arrow.

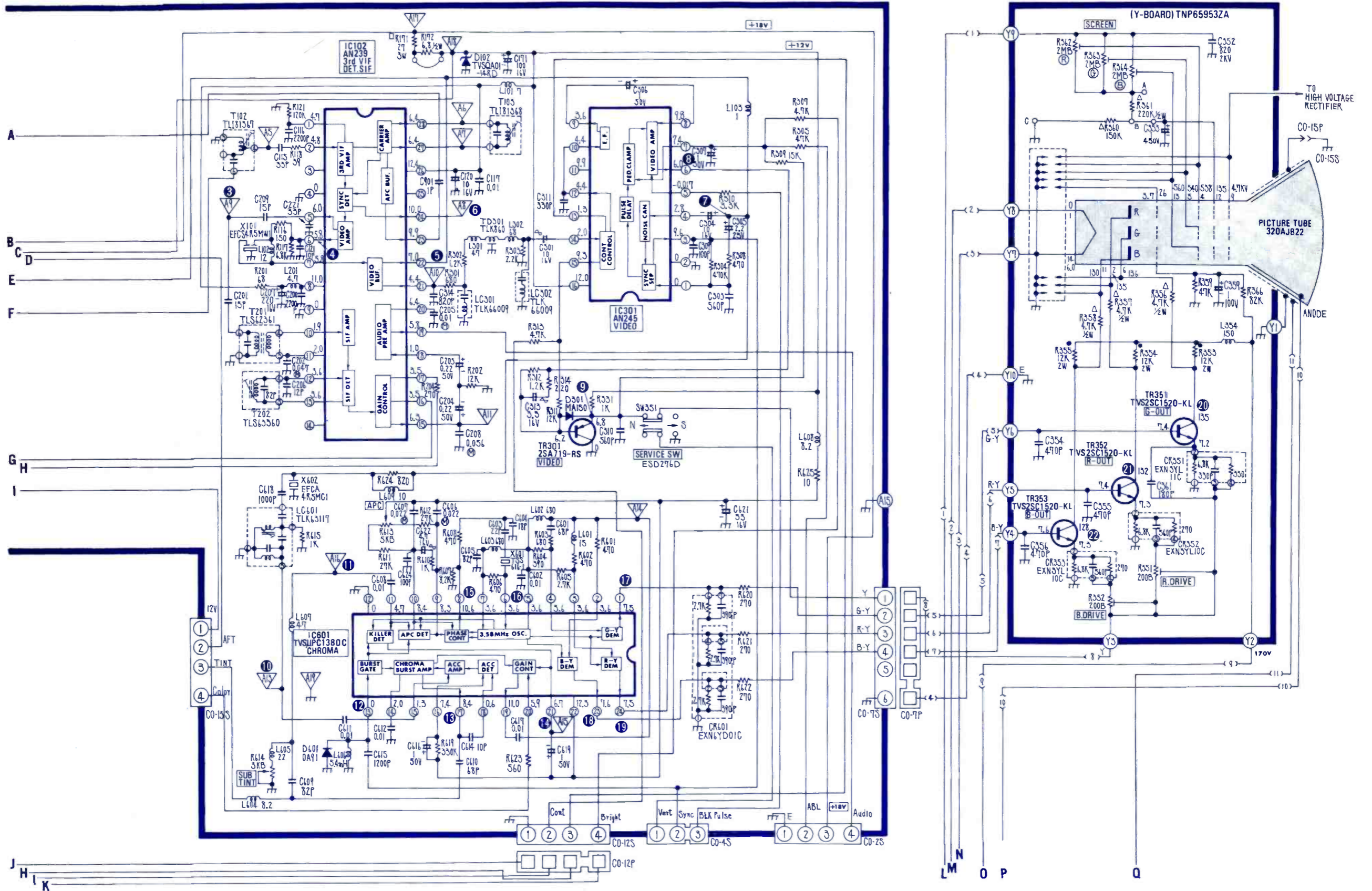
8. When schematic diagram of a board is described in more than two places, they are encircled with dotted line.

**IMPORTANT SAFETY NOTICE**

THE SHADED AREA ON THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION, FIRE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURER'S SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SHADED AREAS OF THE SCHEMATIC.



# ADDITIONAL INFORMATION NEXT PAGE

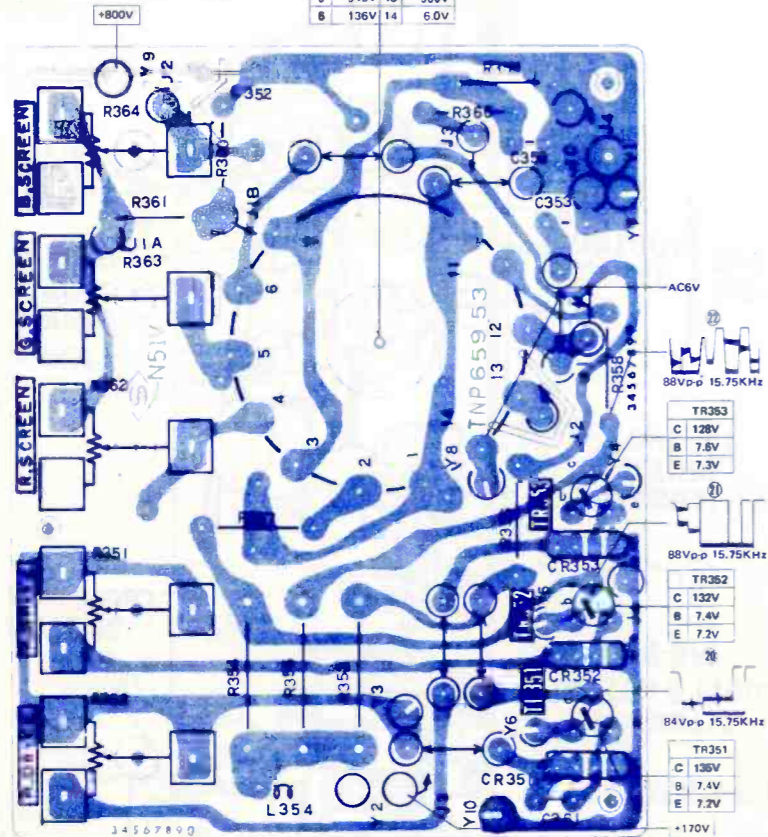


**PANASONIC**  
Color TV Chassis  
NMX-P3A

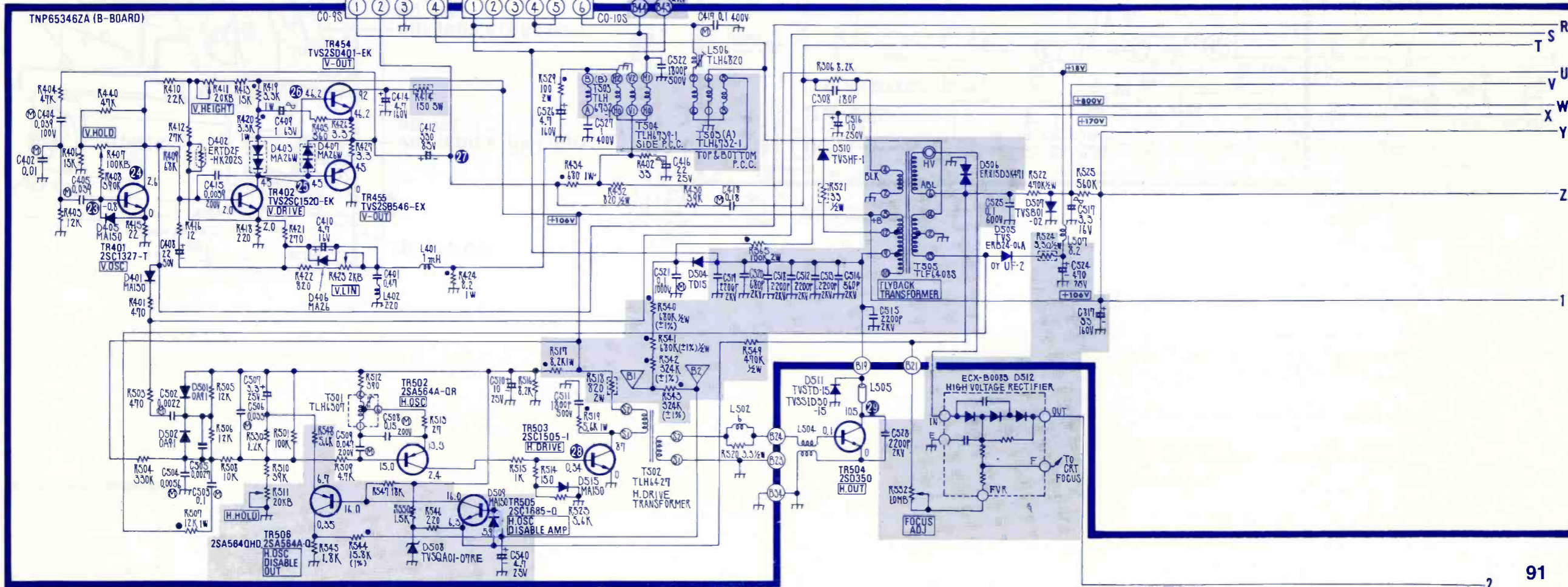
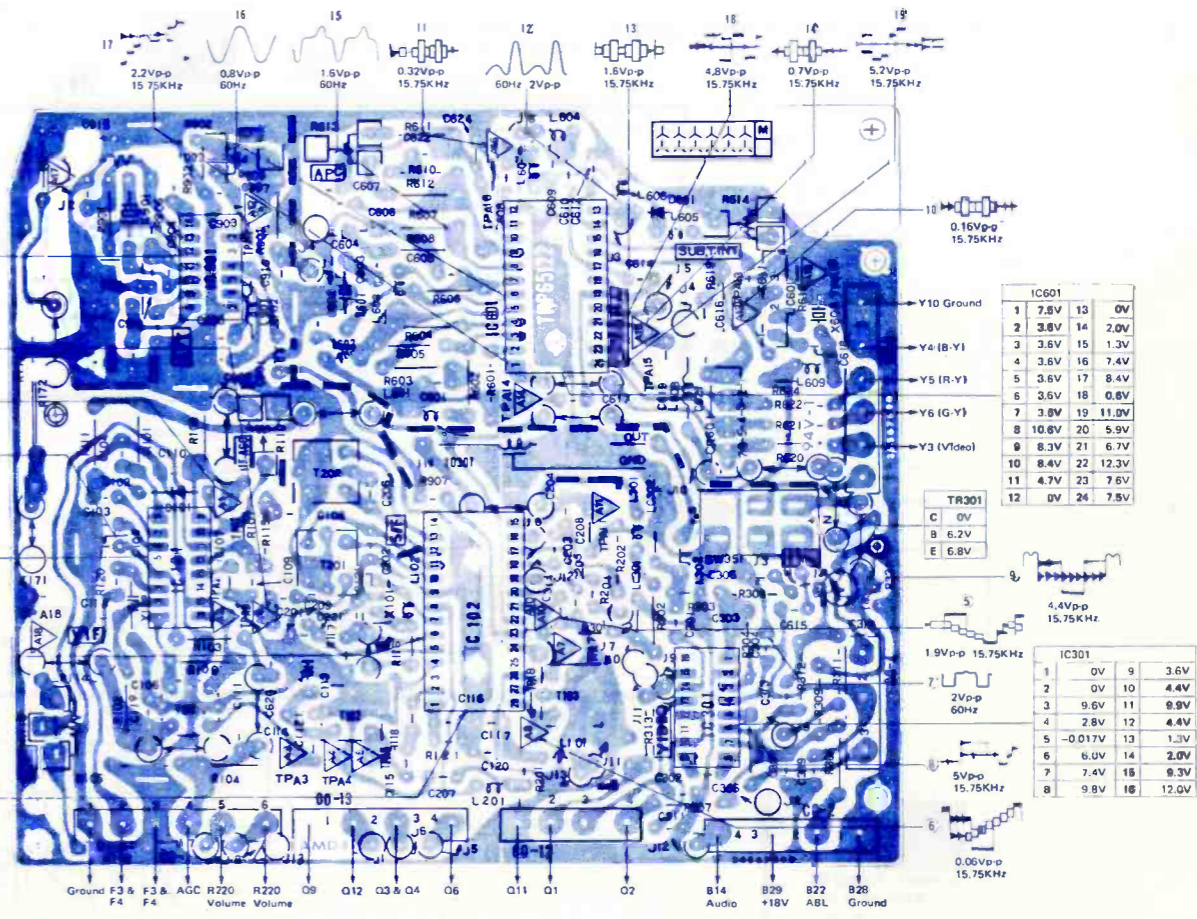
CRT Socket			
1	0V	7	26V
2	135V	9	4.7KV
3	26V	11	130V
4	538V	12	135V
5	540V	13	560V
6	136V	14	6.0V

Y-BOARD TNP65953ZA

**CONDUCTOR VIEW**  
A-BOARD TNP6512Z

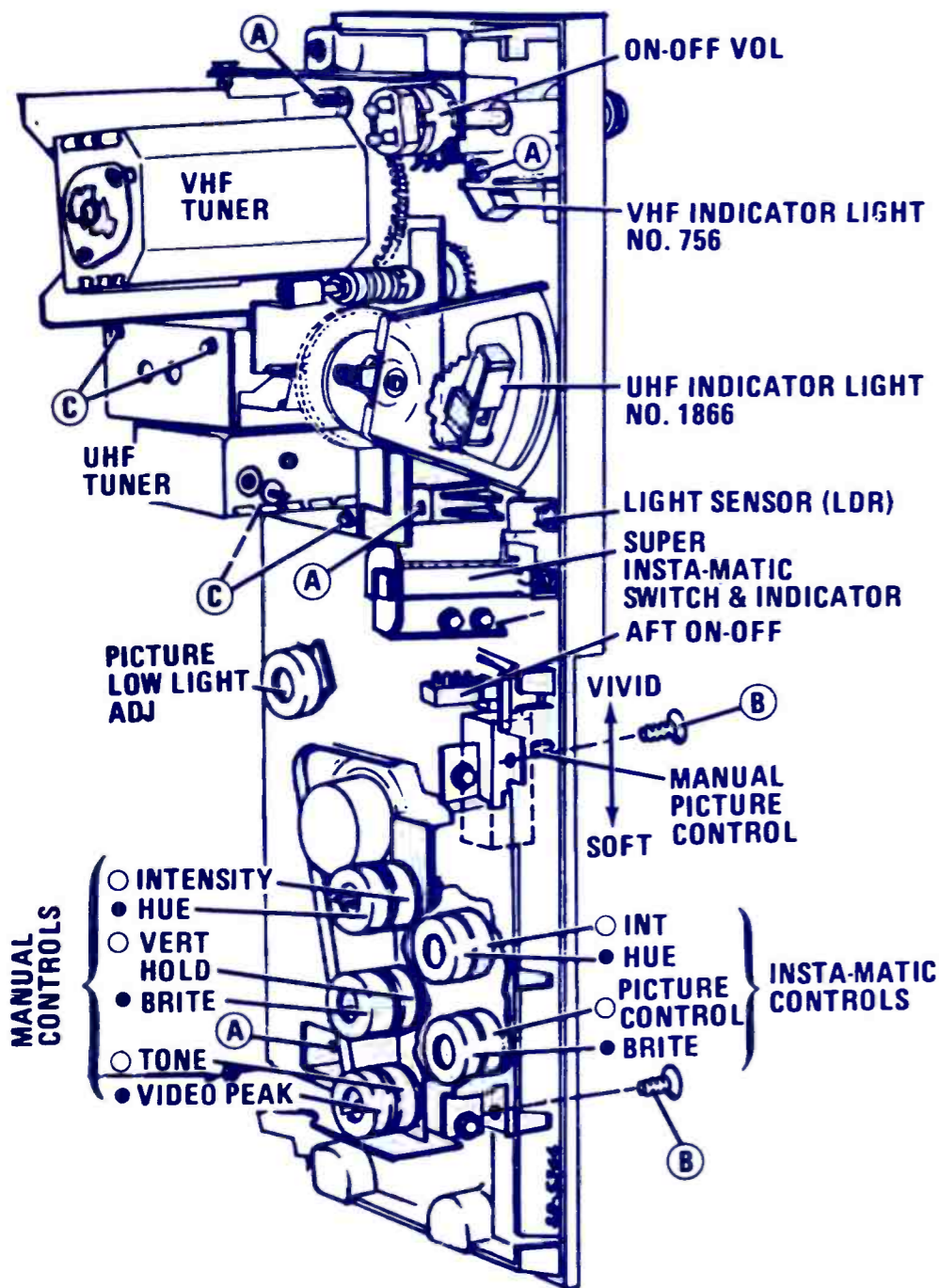


IC901		IC101		IC102		IC601		TR301		IC301	
1	8.13.0V	1	12.0V	1	4.7V	1	7.8V	C	0V	1	0V
2	6.5V	2	10.2V	2	4.8V	2	3.8V	B	6.2V	2	9.6V
3	10	3	3.5V	3	17	3	3.5V	E	7.3V	3	9.6V
4	1.2V	4	4.4V	4	0V	4	4.4V			4	2.8V
5	1.2V	5	13	5	6.0V	5	6.0V			5	-0.017V
6	1.3V	6	0V	6	5.8V	6	11.0V			6	6.0V
7	0V	7	7.0V	7	5.8V	7	11.0V			7	7.4V
		8	12.5V	8	21	8	11.0V			8	9.8V
		9	5.3V	9	23	9	22				
		10	8.0V	10	19	10	22				
		11	5.3V	11	18	11	22				
		12	5.2V	12	1.0V	12	22				
		13	2.9V	13	1.0V	13	22				
		14	2.4V	14	2.0V	14	22				
		15	2.7V	15	2.0V	15	22				
		16	15.4V	16	2.0V	16	22				

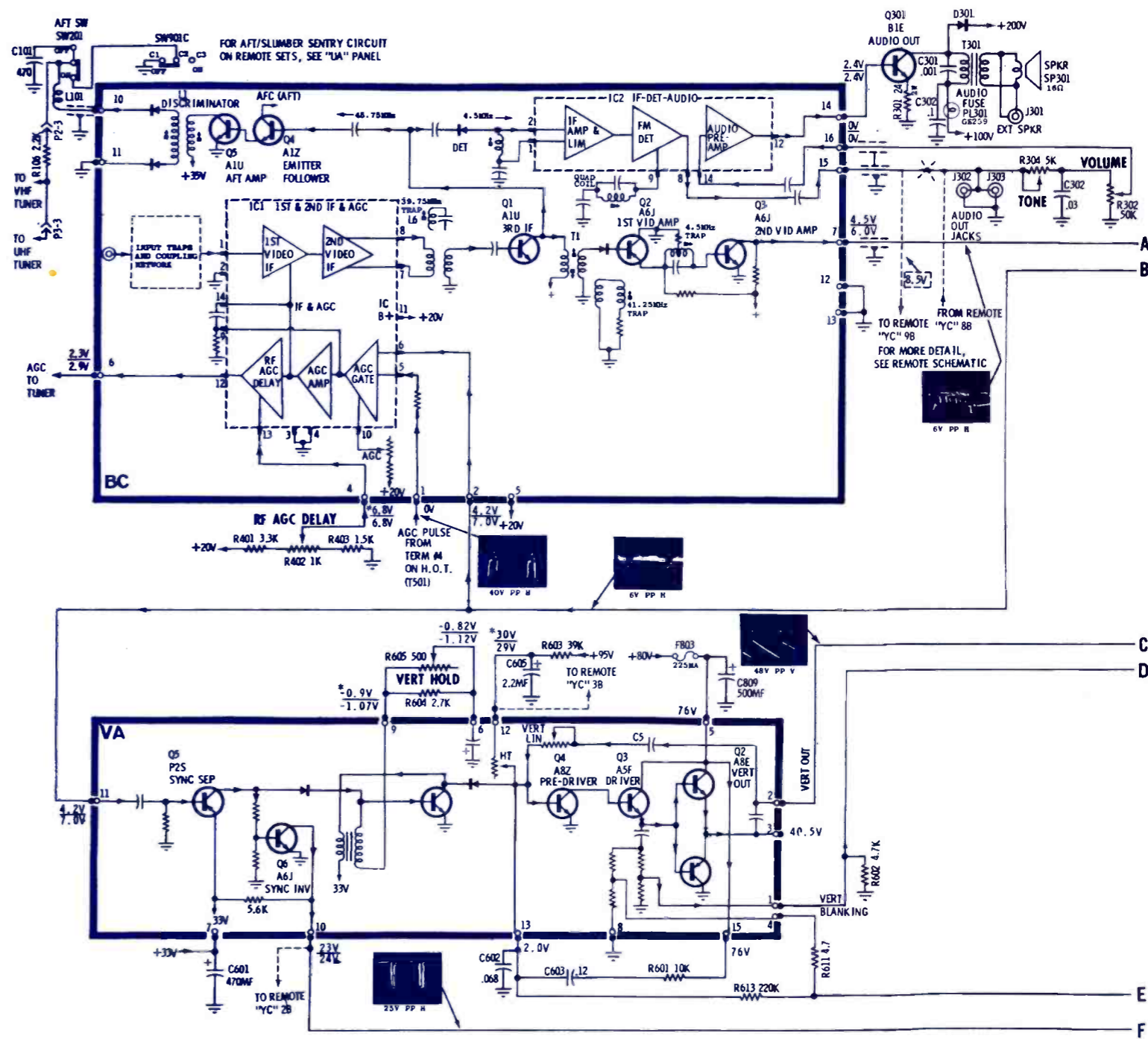


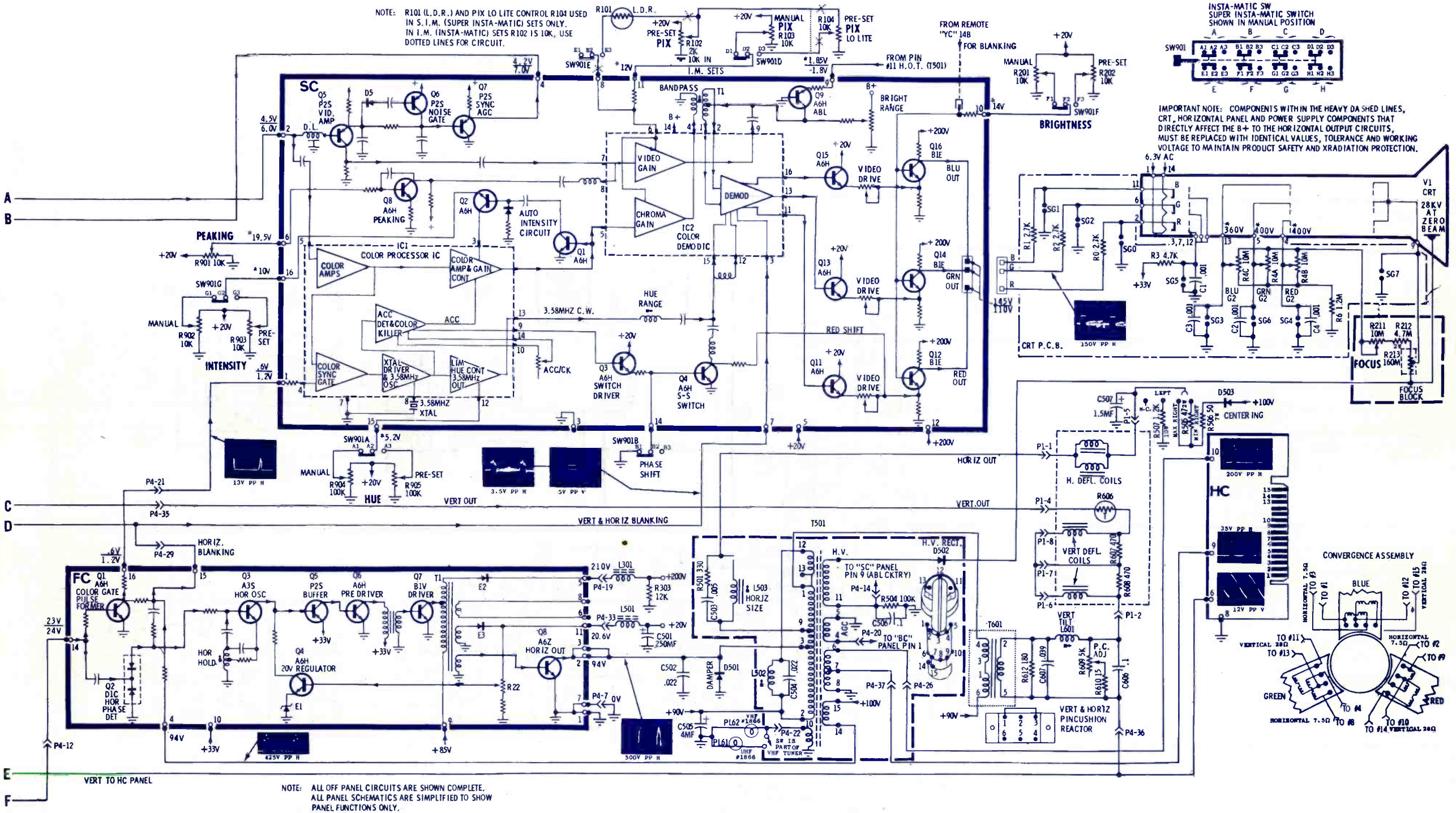
# QUASAR

Color TV Chassis  
ATS, CTS, TS-942



TS-942 Front Panel

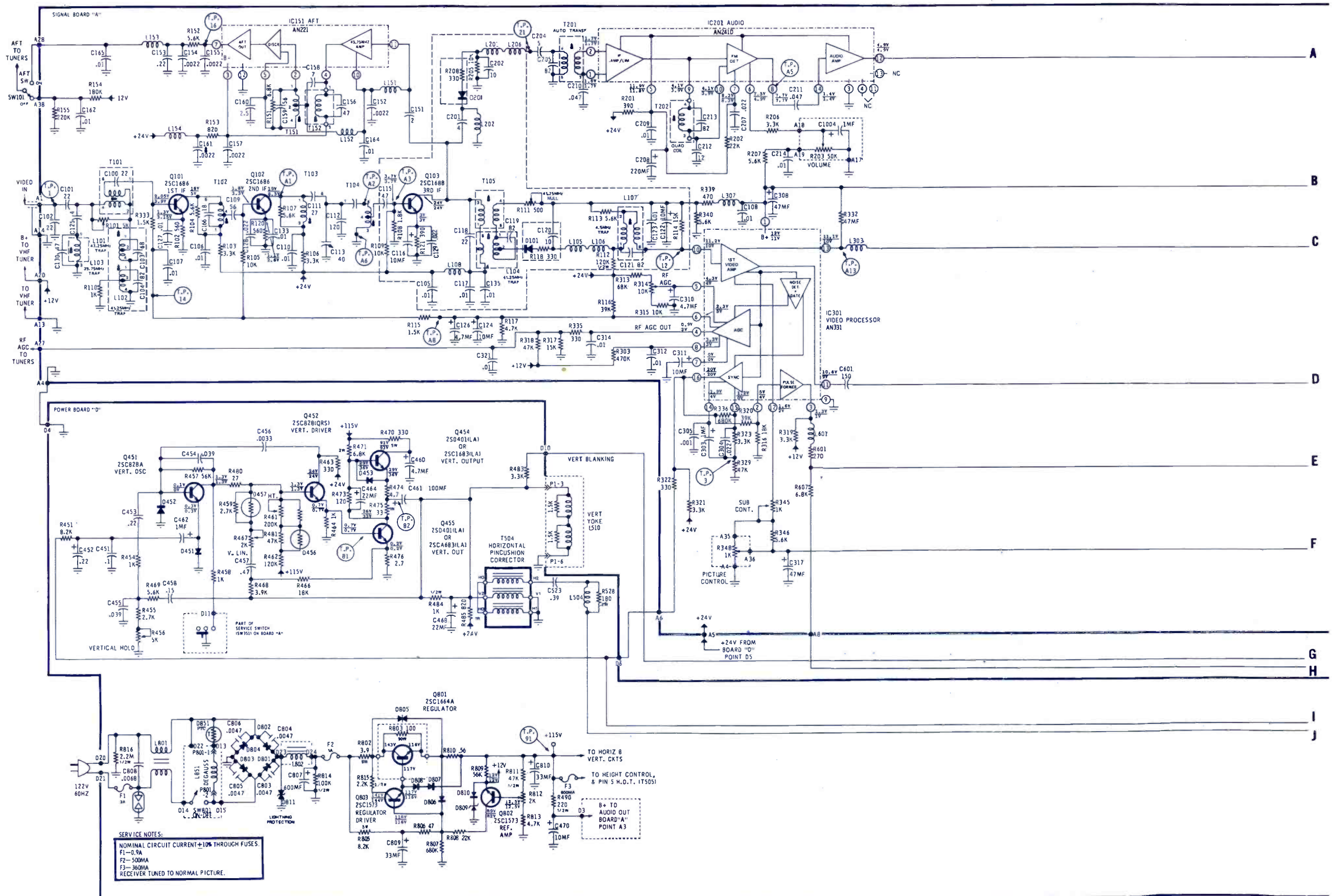




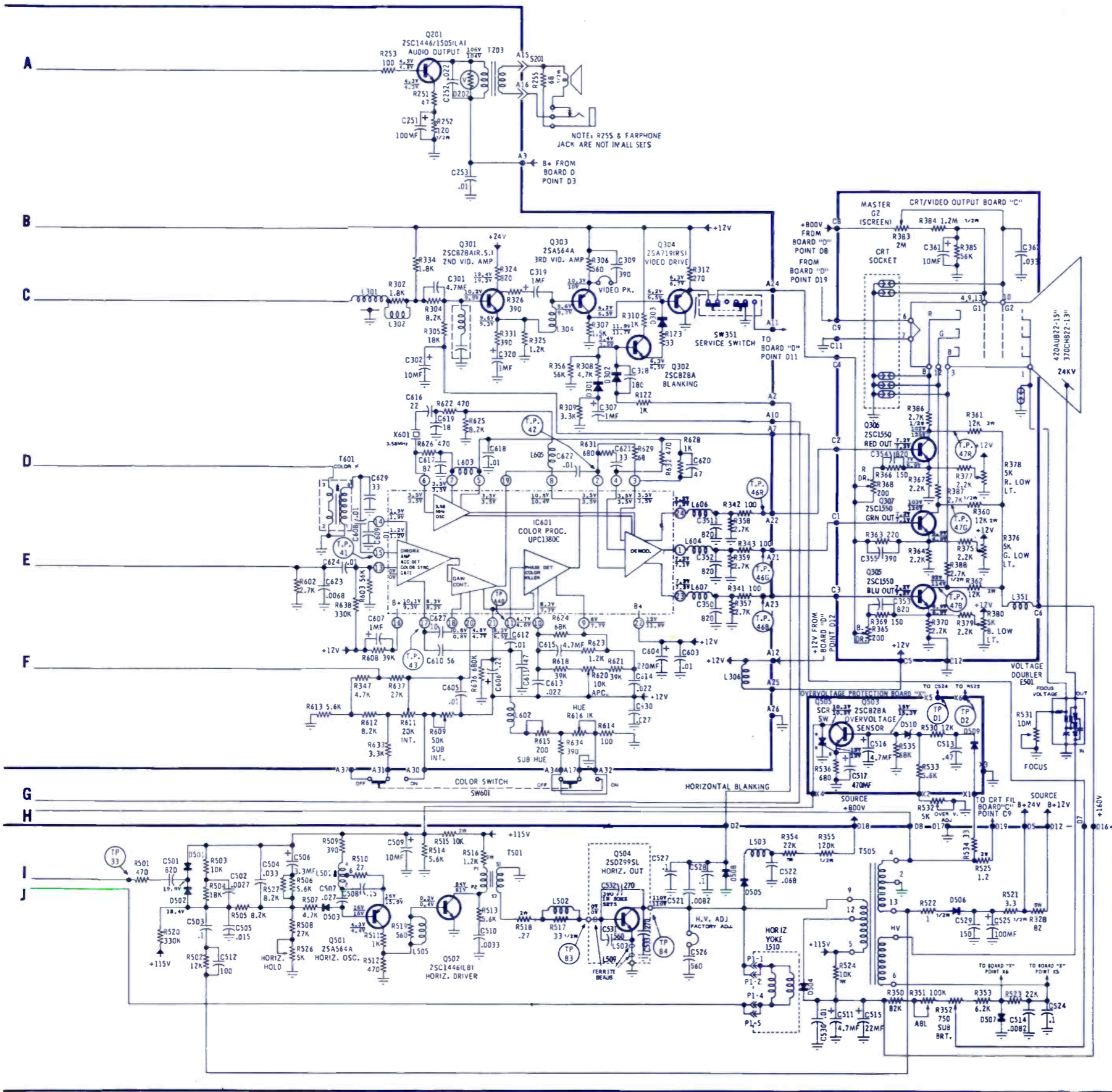
**QUASAR**  
Color TV Chassis  
ATS, CTS, TS-942

# QUASAR

Color TV Chassis  
TS-951

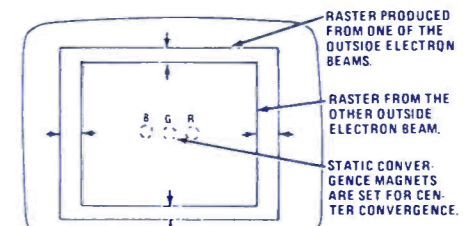
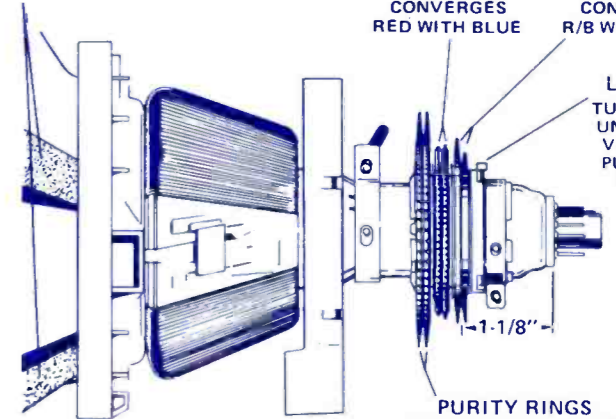


**SERVICE NOTES:**  
 NOMINAL CIRCUIT CURRENT +10% THROUGH FUSES.  
 F1—0.9A  
 F2—500MA  
 F3—360MA  
 RECEIVER TUNED TO NORMAL PICTURE.

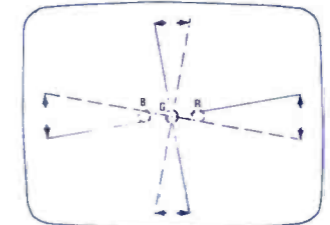


YOKE POSITIONING WEDGES FOR DYNAMIC CONVERGENCE

STATIC CONVERGENCE MAGNETS  
 4-POLE — CONVERGES RED WITH BLUE  
 6-POLE — CONVERGES R/B WITH GREEN



AS THE YOKE IS MOVED HORIZONTALLY, ONE RASTER GETS LARGER WHILE THE OTHER GETS SMALLER.



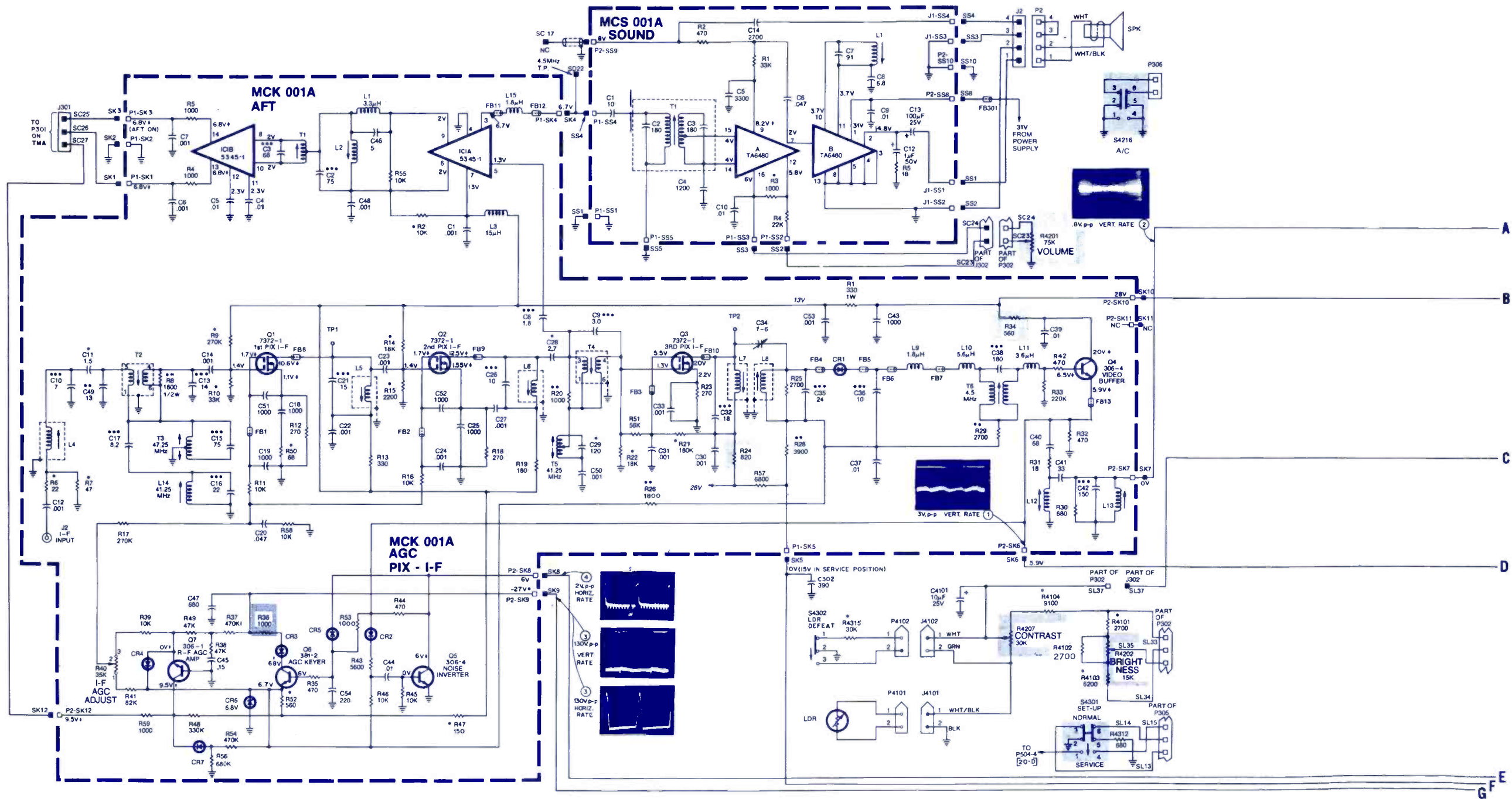
AS THE YOKE IS MOVED VERTICALLY, THE RASTERS PRODUCED BY THE OUTSIDE GUNS ROTATE IN OPPOSITE DIRECTIONS.

**QUASAR**  
 Color TV Chassis  
 TS-951

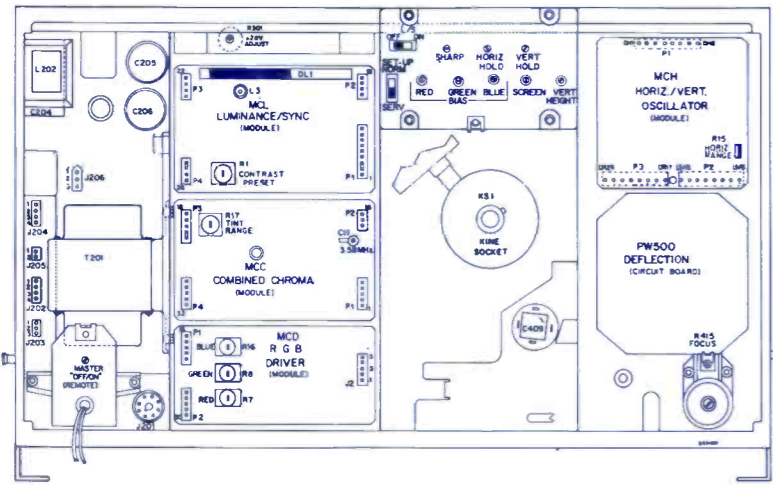


**RCA**  
Color TV Chassis  
CTC74 Series

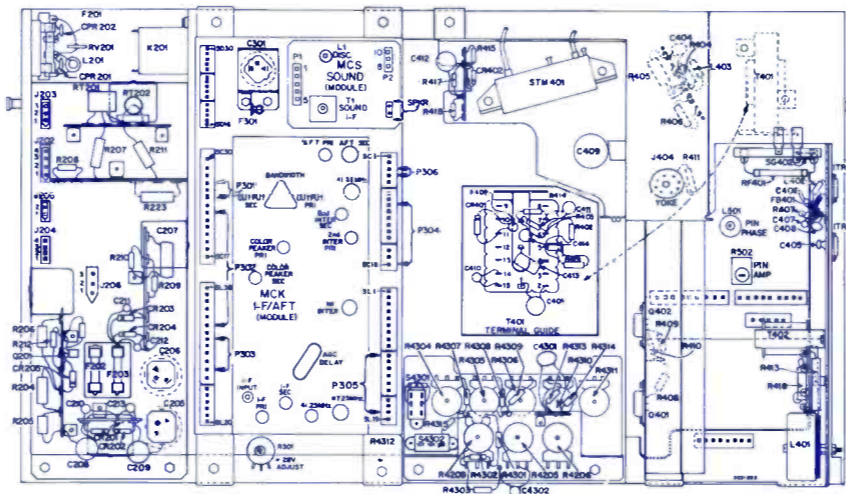
SYMBOL	DESCRIPTION	RCA PART NO.	
F1101	— fuse	141486	RF401 — resis, fusible
Q1101	— triac—778-2	137876	STM401 — tripler
T1101	— xformer	141416	T401 — xformer, high volt
CPR201	— circuit encapsulated	109956	T402 — xformer
CPR202	— circuit encapsulated	109956	R4201 — control, vol
F202	— fuse	111819	R4203 — control, color
F203	— fuse	111819	R4207 — control, contrast
RT201	— therm	141238	R4205 — control, horiz hold
RT202	— therm	141238	R4206 — control, vert hold
F301	— fuse	98105	R4209 — control sharp
R412	— control, focus	138749	R4310 — control screen
			R4311 — control, vert height
			S4301 — switch, LDR defeat



CHASSIS LAYOUT

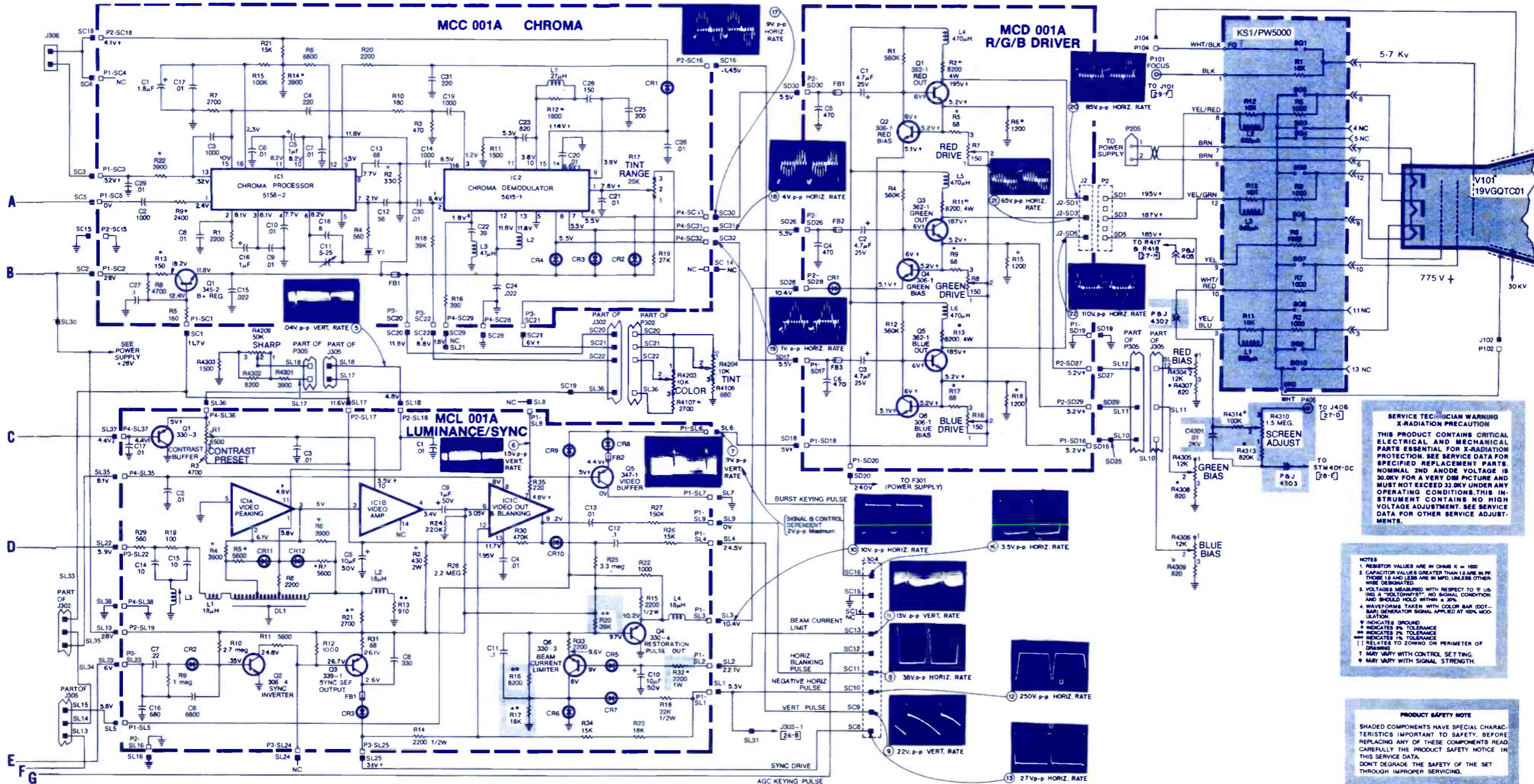


Rear View



Top View  
(Service Position)

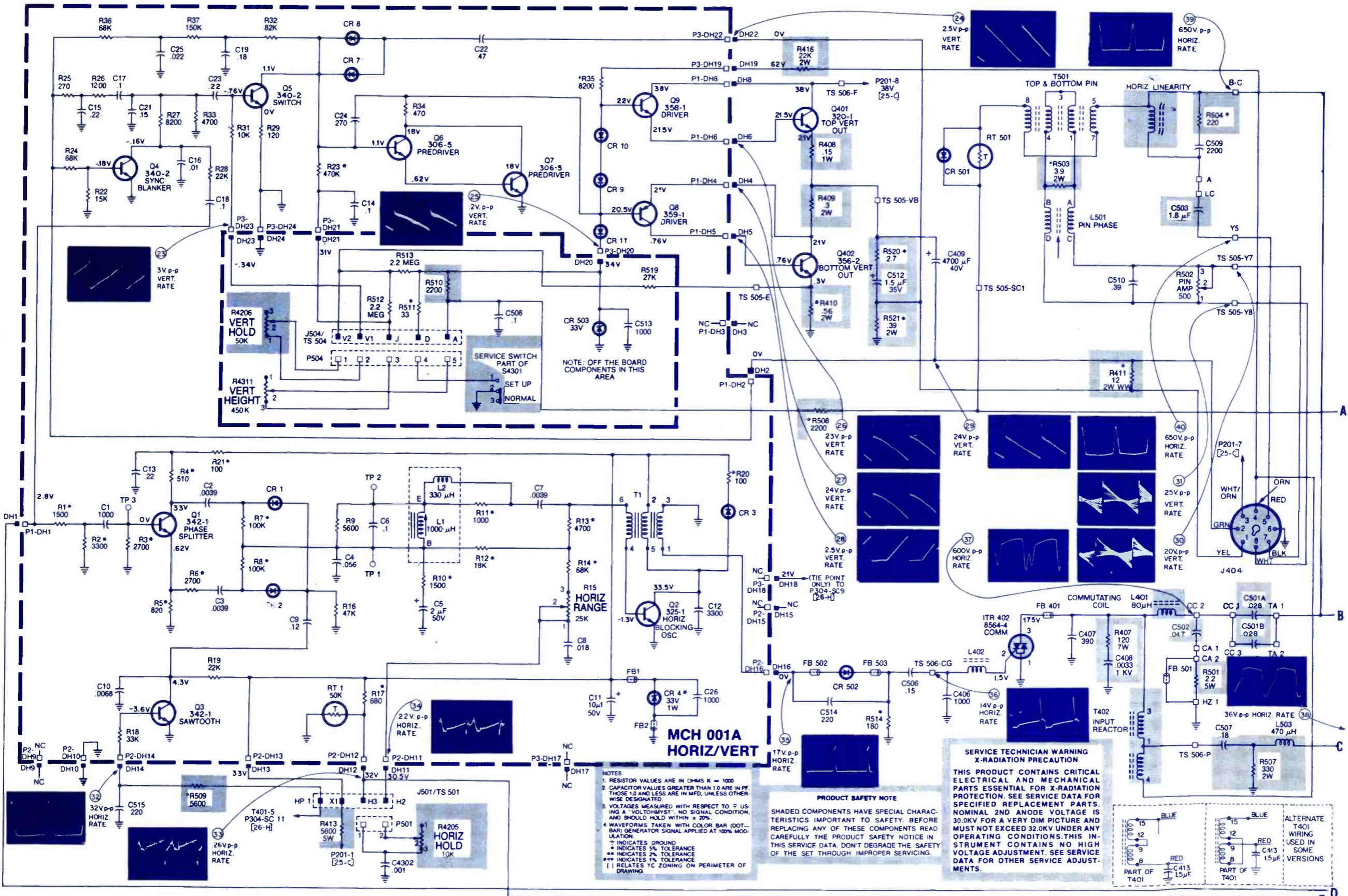
RCA CONTINUED  
NEXT PAGE



**SERVICE TECHNICIAN WARNING**  
X-RADIATION PRECAUTION  
THIS PRODUCT CONTAINS CRITICAL ELECTRICAL AND MECHANICAL PARTS ESSENTIAL FOR X-RADIATION PROTECTION. SEE SERVICE DATA FOR SPECIFIED REPLACEMENT PARTS. NOMINAL 2ND ANODE VOLTAGE IS 30.0KV FOR A VERY DIM PICTURE AND MUST NOT EXCEED 32.0KV UNDER ANY OPERATING CONDITIONS. THIS INSTRUMENT CONTAINS NO HIGH VOLTAGE ADJUSTMENT. SEE SERVICE DATA FOR OTHER SERVICE ADJUSTMENTS.

- NOTES**
- RESISTOR VALUES ARE IN OHMS UNLESS OTHERWISE SPECIFIED.
  - CAPACITOR VALUES GREATER THAN 10 ARE IN P.F. THOSE 10 AND LESS ARE IN MFD. UNLESS OTHERWISE DESIGNATED.
  - VOLTAGES MEASURED WITH RESPECT TO '0' UNLESS OTHERWISE SPECIFIED. NO SIGNAL CONDITION. AND SHOULD HOLD WITHIN ± 30%.
  - WAVEFORMS TAKEN WITH COLOR BAR (DOT-BAR) GENERATOR SIGNAL APPLIED AT 100% MODULATION.
  - INDICATES GROUND.
  - INDICATES 5% TOLERANCE.
  - INDICATES 10% TOLERANCE.
  - INDICATES 1% TOLERANCE.
  - [ ] RELATES TO ZONING ON PERIMETER OF DRAWING.
  - MAY VARY WITH CONTROL SETTING.
  - MAY VARY WITH SIGNAL STRENGTH.

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



**MCH 001A  
HORIZ/VERT**

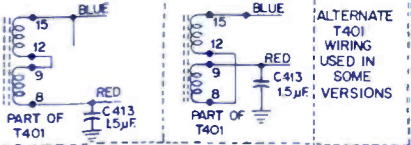
NOTES  
 1. RESISTOR VALUES ARE IN OHMS K = 1000  
 2. CAPACITOR VALUES GREATER THAN 1.0 ARE IN PF. THOSE 1.0 AND LESS ARE IN MFD, UNLESS OTHERWISE DESIGNATED.  
 3. VOLTAGES MEASURED WITH RESPECT TO  $\varnothing$  USING A "VOLTOHMIST"; NO SIGNAL CONDITION, AND SHOULD HOLD WITHIN  $\pm 20\%$ .  
 4. WAVEFORMS TAKEN WITH COLOR BAR (DOT-BAR) GENERATOR SIGNAL APPLIED AT 100% MODULATION.  
 $\varnothing$  INDICATES GROUND  
 \* INDICATES 5% TOLERANCE  
 \*\* INDICATES 2% TOLERANCE  
 \*\*\* INDICATES 1% TOLERANCE  
 [ ] RELATES TO ZONING ON PERIMETER OF DRAWING

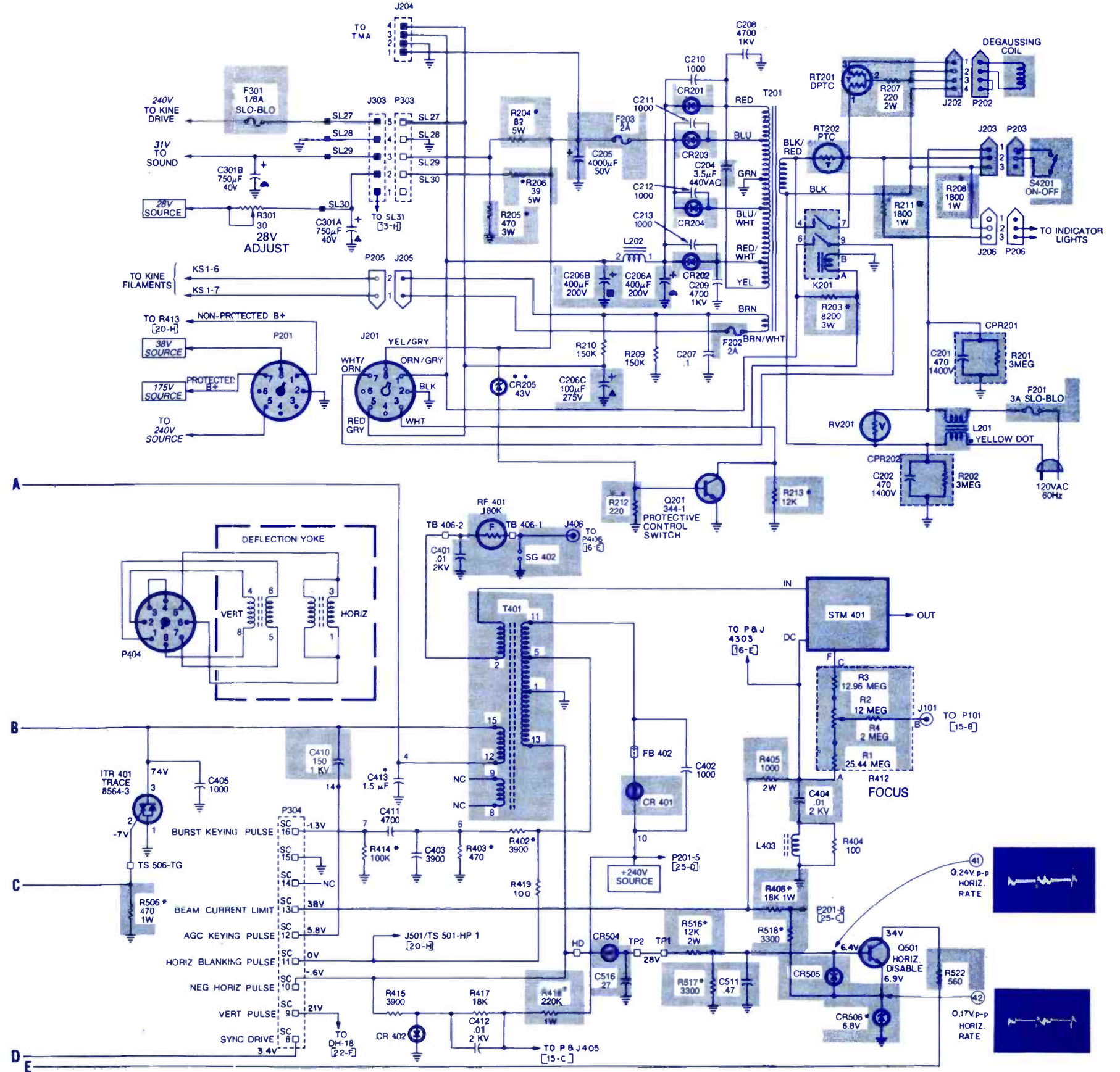
**SERVICE TECHNICIAN WARNING  
X-RADIATION PRECAUTION**

THIS PRODUCT CONTAINS CRITICAL ELECTRICAL AND MECHANICAL PARTS ESSENTIAL FOR X-RADIATION PROTECTION. SEE SERVICE DATA FOR SPECIFIED REPLACEMENT PARTS. NOMINAL 2ND ANODE VOLTAGE IS 30.0KV FOR A VERY DIM PICTURE AND MUST NOT EXCEED 32.0KV UNDER ANY OPERATING CONDITIONS. THIS INSTRUMENT CONTAINS NO HIGH VOLTAGE ADJUSTMENT. SEE SERVICE DATA FOR OTHER SERVICE ADJUSTMENTS.

**PRODUCT SAFETY NOTE**

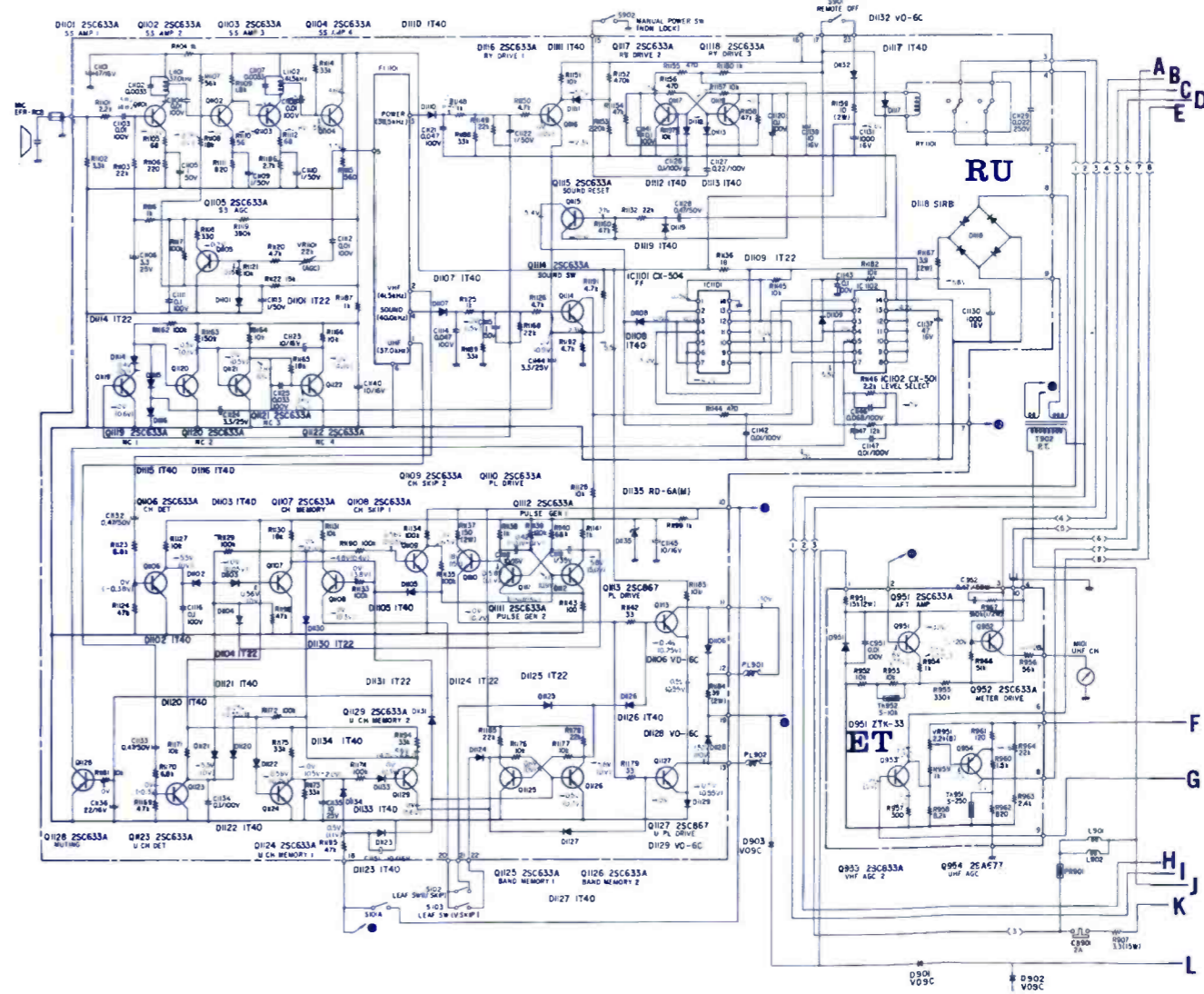
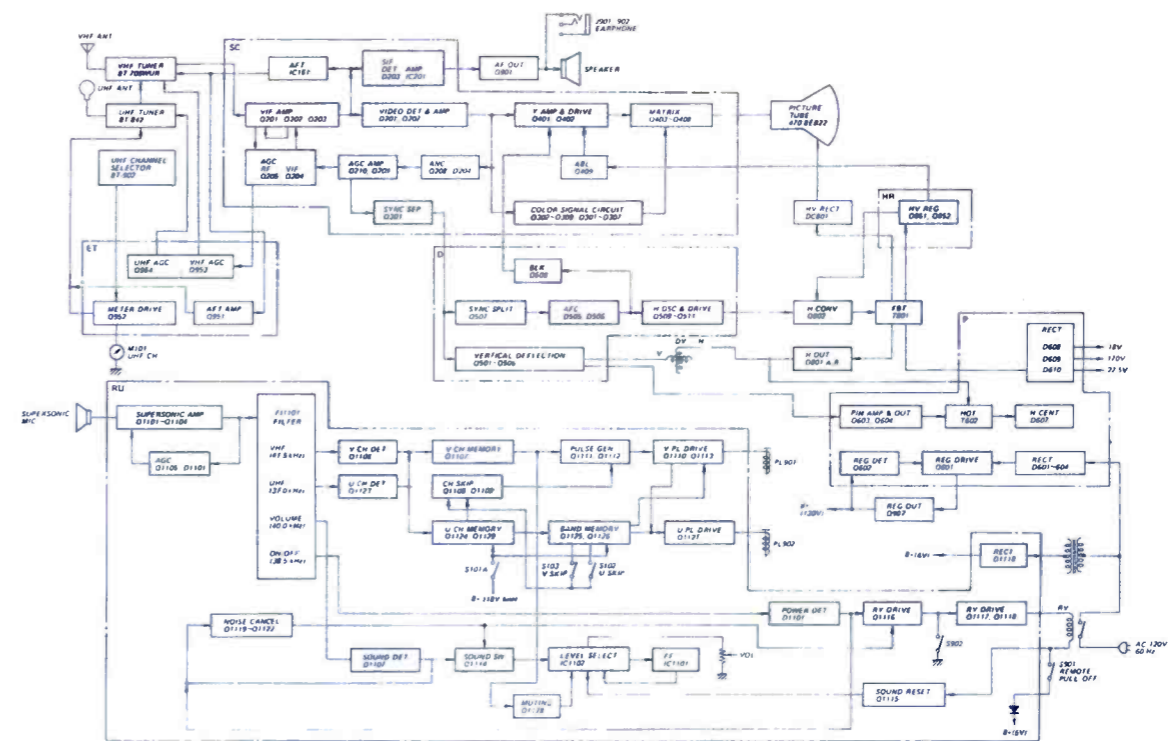
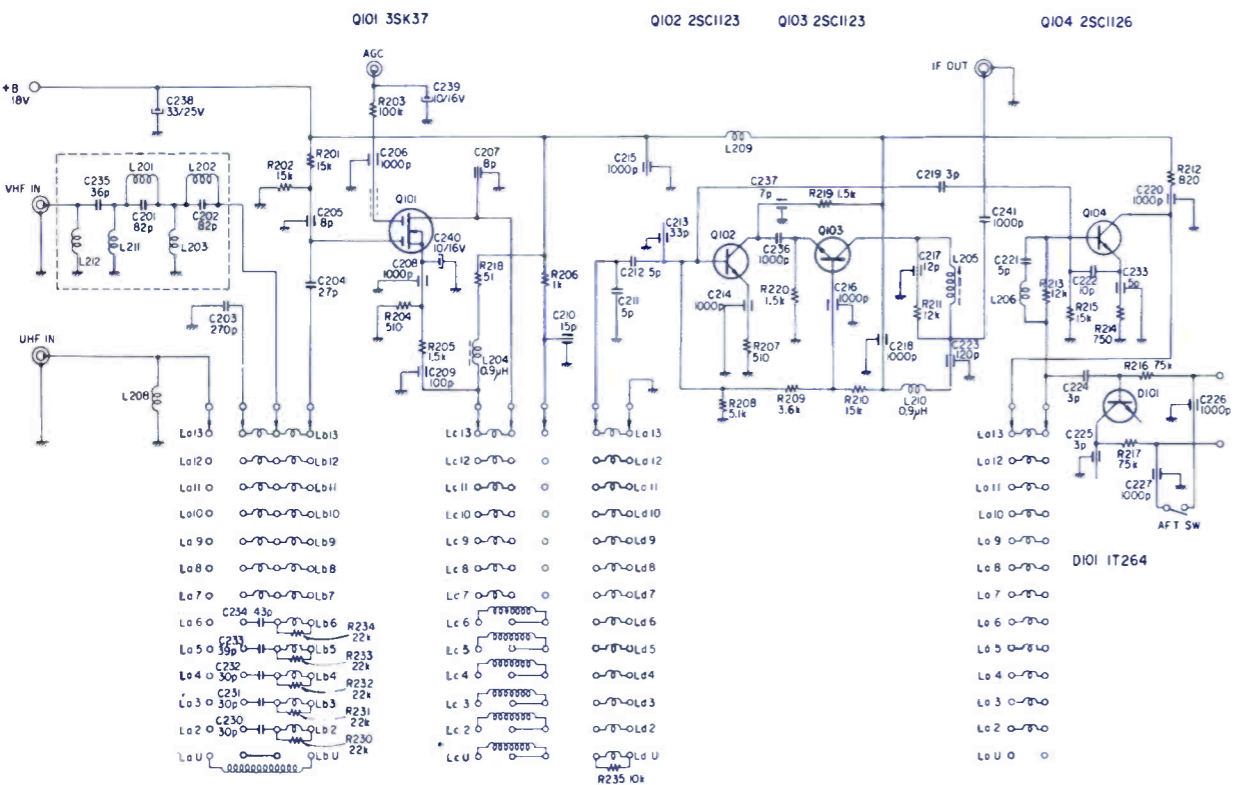
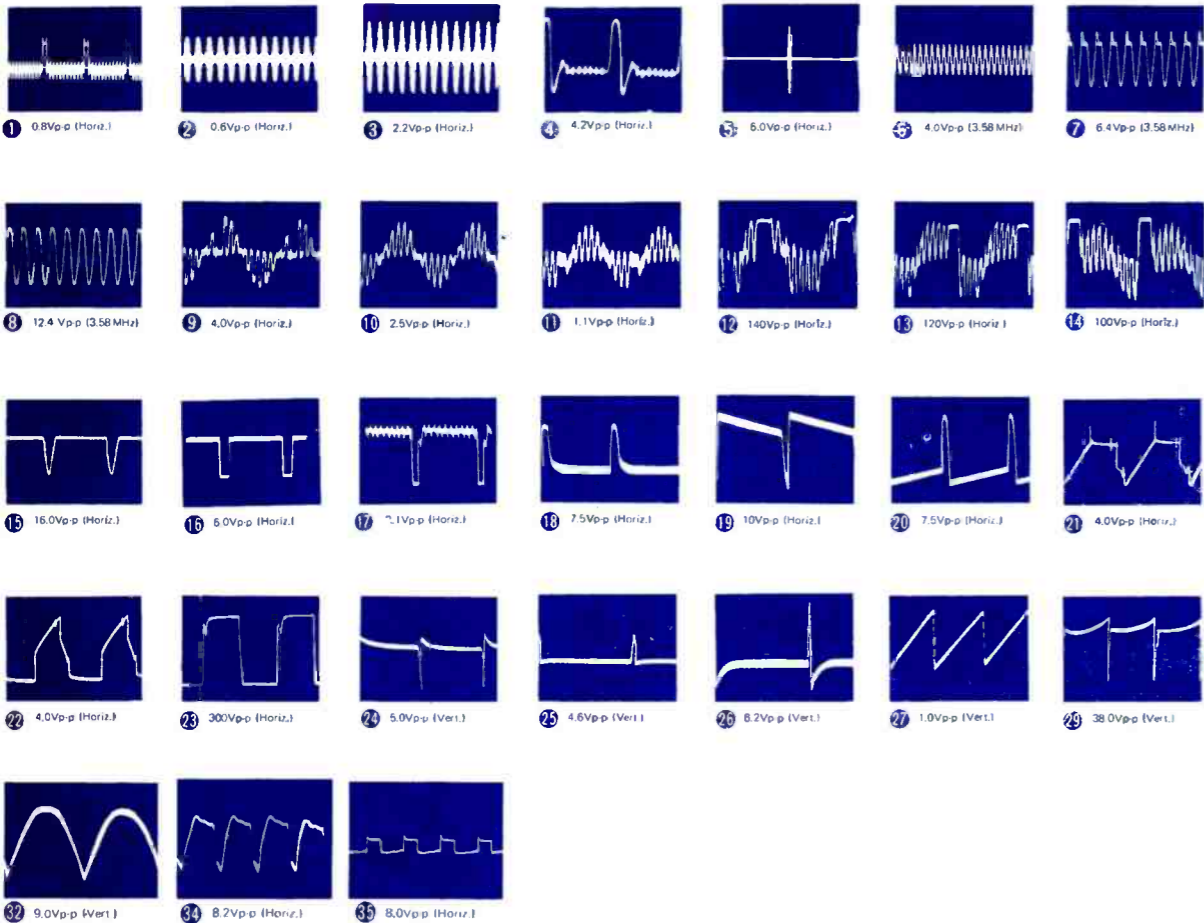
SHADED COMPONENTS HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THIS SERVICE DATA. DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

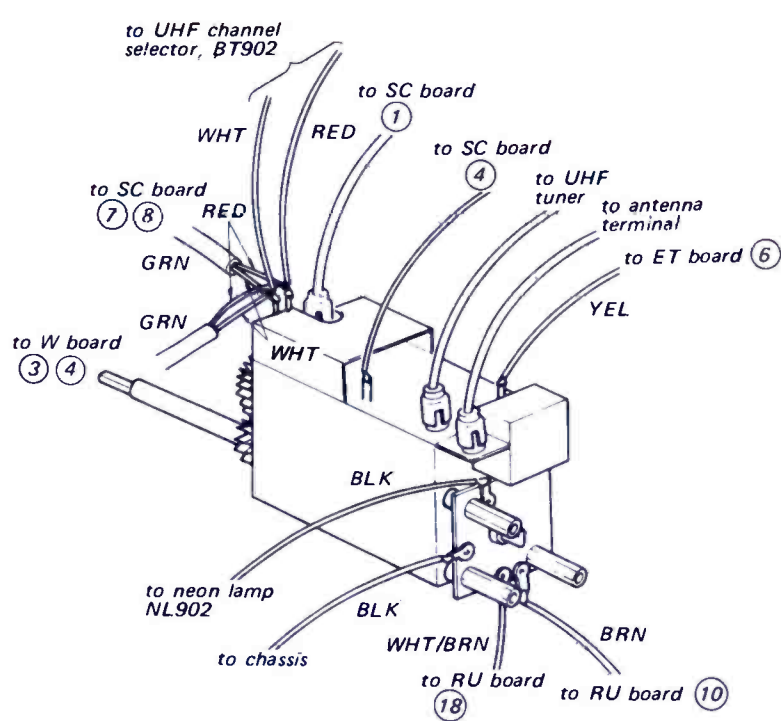
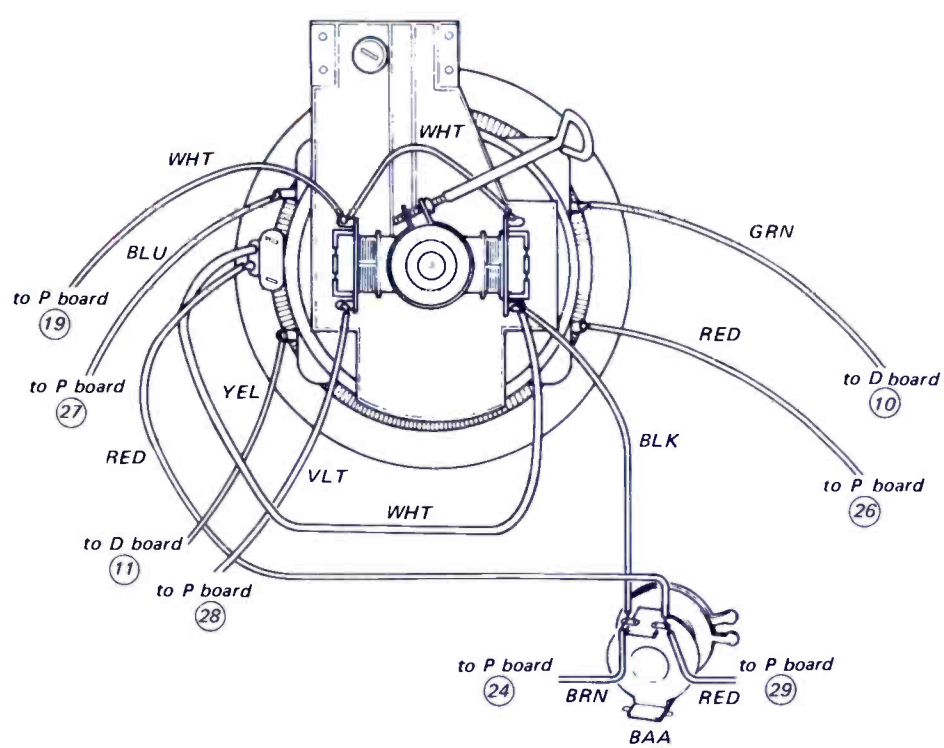




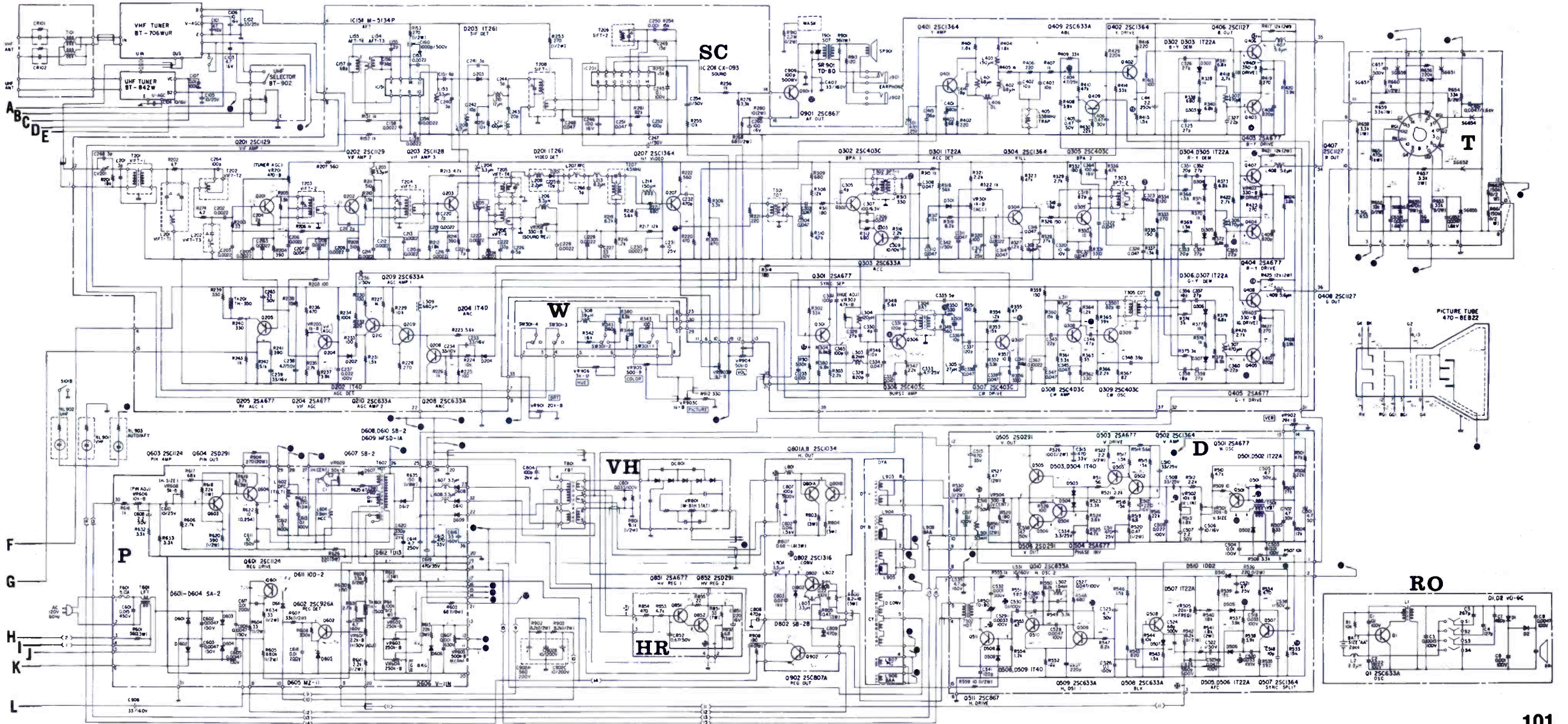
# SONY

## Color TV Model KV-1730R

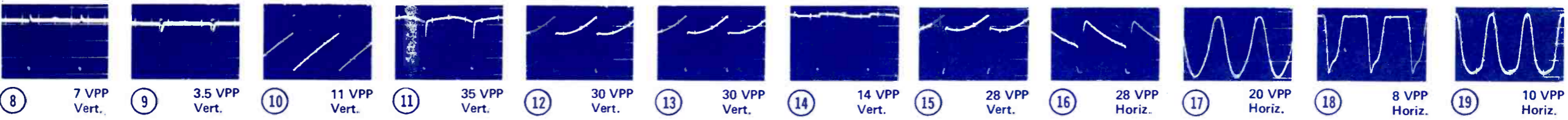




SYMBOL	DESCRIPTION	SONY PART NO.
L604	coil, horiz centering	1-459-056-00
L903	deflect yoke	1-451-069-63
T304	x-former, burst amp	1-405-372-00
T501	x-former, vertical osc	1-435-008-00
T502	x-former, horiz drive	1-437-028-00
T602	x-former, horiz output	1-439-078-00
T801	x-former assembly, flyback	1-439-120-13
T901	x-former, sound output	1-427-307-00
T902	x-former, power	1-442-020-00
VR902	20-k-B, vertical	1-222-388-00
VR903	1-k-B, picture	1-222-383-00
VR904	50-k-D volume	1-224-124-00
VR905	500-B color	1-222-386-00
VR906	3-k-U hue	1-222-387-00
VR951	2.2-k-B UHF AGC	1-222-785-00
VR1101	22-k-B SS AGC	1-222-786-00
CB901	circuit breaker	1-515-144-31
F601	fuse 5a	1-532-214-00

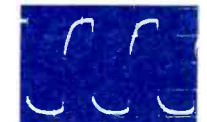
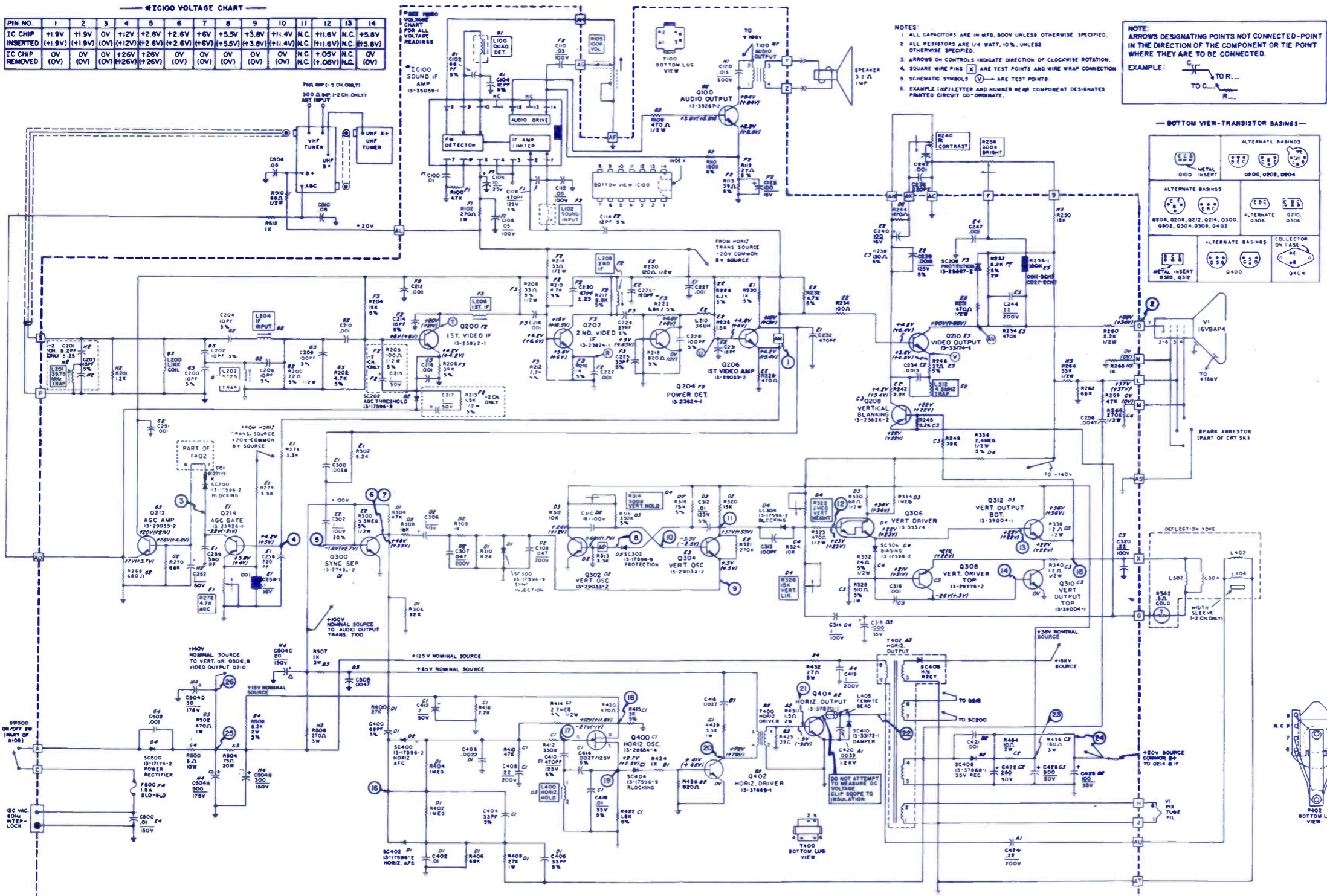


**SYLVANIA**  
TV Chassis  
A16-2,3

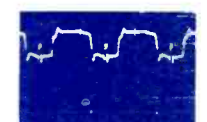


**IC100 VOLTAGE CHART**

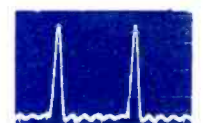
PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC CHIP INSERTED	+1.9V (+1.9V)	+1.9V (+1.9V)	0V (0V)	+1.2V (+1.2V)	+2.6V (+2.6V)	+2.6V (+2.6V)	+6V (+6V)	+3.5V (+3.5V)	+3.8V (+3.8V)	+11.4V (+11.4V)	N.C. (N.C.)	+11.6V (+11.6V)	N.C. (N.C.)	+5.8V (+5.8V)
IC CHIP REMOVED	0V (0V)	0V (0V)	0V (0V)	+2.6V (+2.6V)	+2.6V (+2.6V)	0V (0V)	0V (0V)	0V (0V)	0V (0V)	0V (0V)	N.C. (N.C.)	+0.5V (+0.5V)	N.C. (N.C.)	0V (0V)



20 210 VPP Horiz.



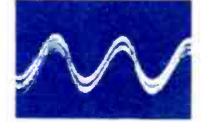
21 10 VPP Horiz.



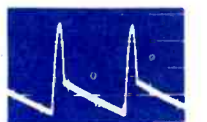
22 Depends on amount of coupling Horiz.



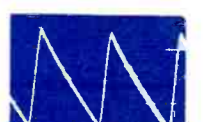
23 3.5 VPP Vert.



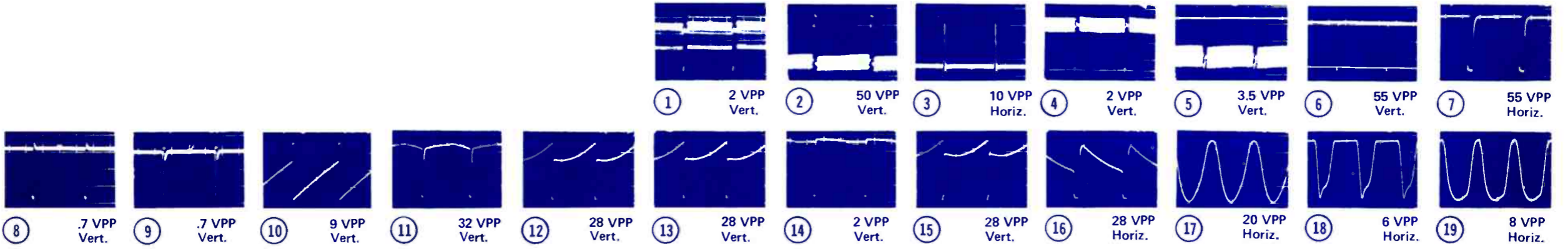
24 .2 VPP Vert.



25 20 VPP Vert.

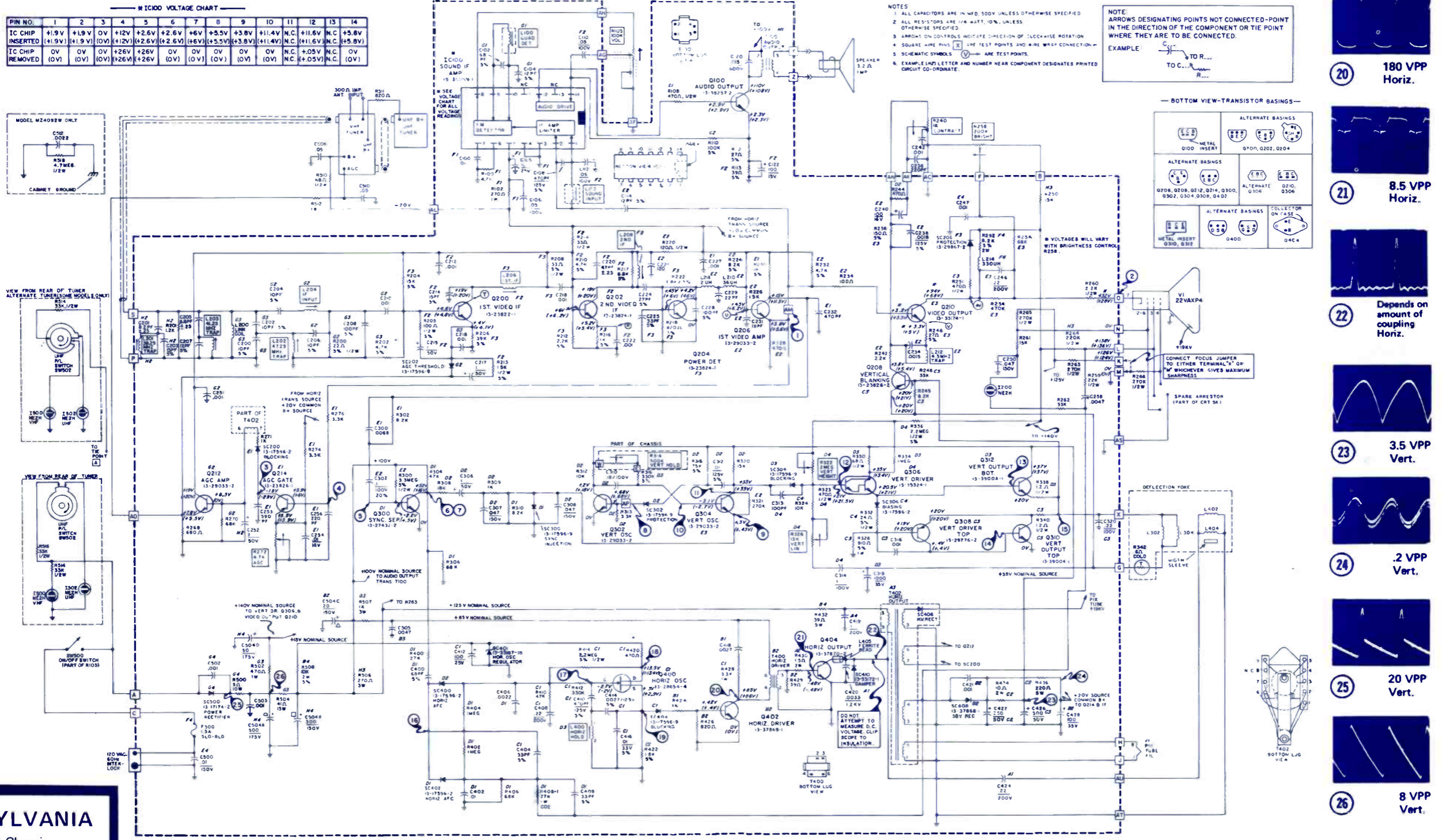


26 8 VPP Vert.



**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)	OV	+1.2V (+1.2V)	+2.6V (+2.6V)	+2.6V (+2.6V)	+6V (+6V)	+5.5V (+5.5V)	+3.8V (+3.8V)	+11.4V (+11.4V)	N.C.	+11.6V (+11.6V)	N.C.	+5.8V (+5.8V)
IC CHIP REMOVED	OV	OV	OV	+2.6V (+2.6V)	+2.6V (+2.6V)	OV	OV	OV	OV	OV	N.C.	+0.5V (+0.5V)	N.C.	OV



**NOTES**

- ALL CAPACITORS ARE IN MFD UNLESS OTHERWISE SPECIFIED
- ALL RESISTORS ARE 1/4 WATT, 10% UNLESS OTHERWISE SPECIFIED
- ARROWS ON CONTROLS INDICATE DIRECTION OF CLOCKWISE ROTATION
- SQUARE WAVE PULSE ARE TEST POINTS AND ARE WIRE CONNECTIONS
- SCHEMATIC SYMBOLS  $\nabla$  ARE TEST POINTS
- EXAMPLE LINE LETTER AND NUMBER NEAR COMPONENT DESIGNATES PRINTED CIRCUIT CO-ORDINATE

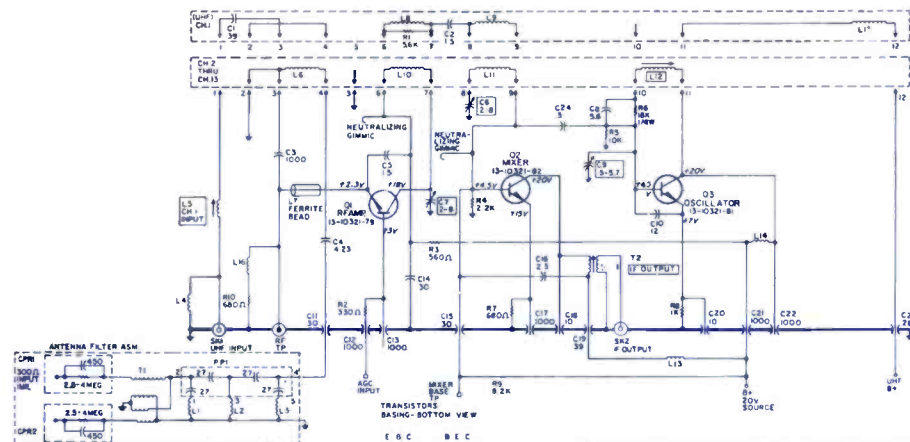
**NOTE**  
ARROWS DESIGNATING POINTS NOT CONNECTED-POINT IN THE DIRECTION OF THE COMPONENT OR TIE POINT WHERE THEY ARE TO BE CONNECTED.

EXAMPLE  
TO C...  
TO R...  
TO G...



**SYLVANIA**  
TV Chassis  
A22-1



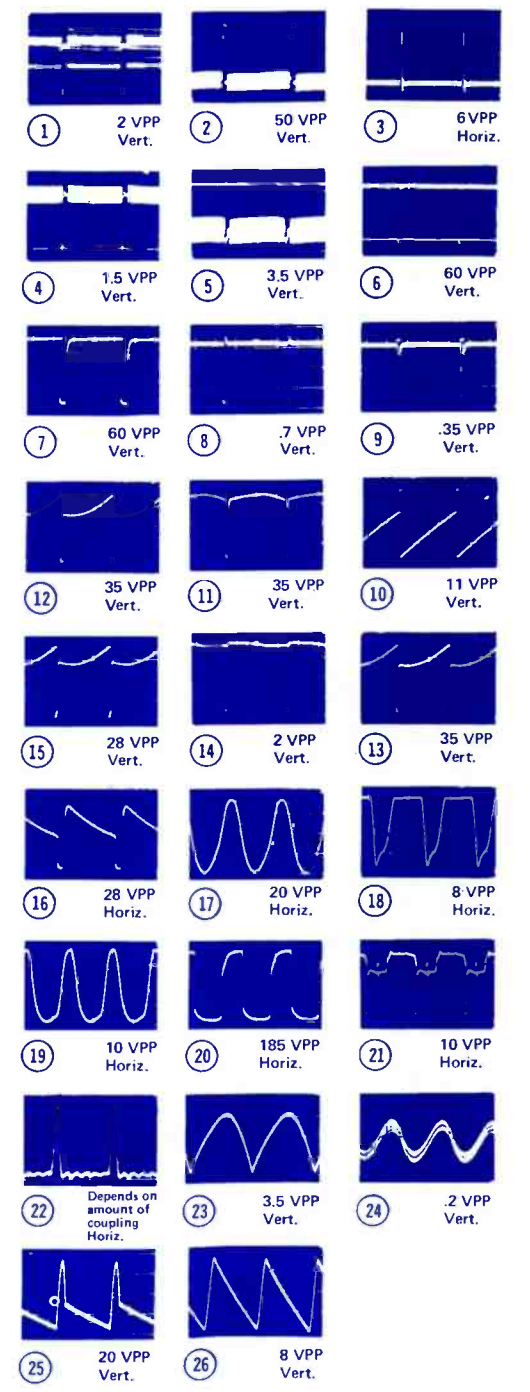
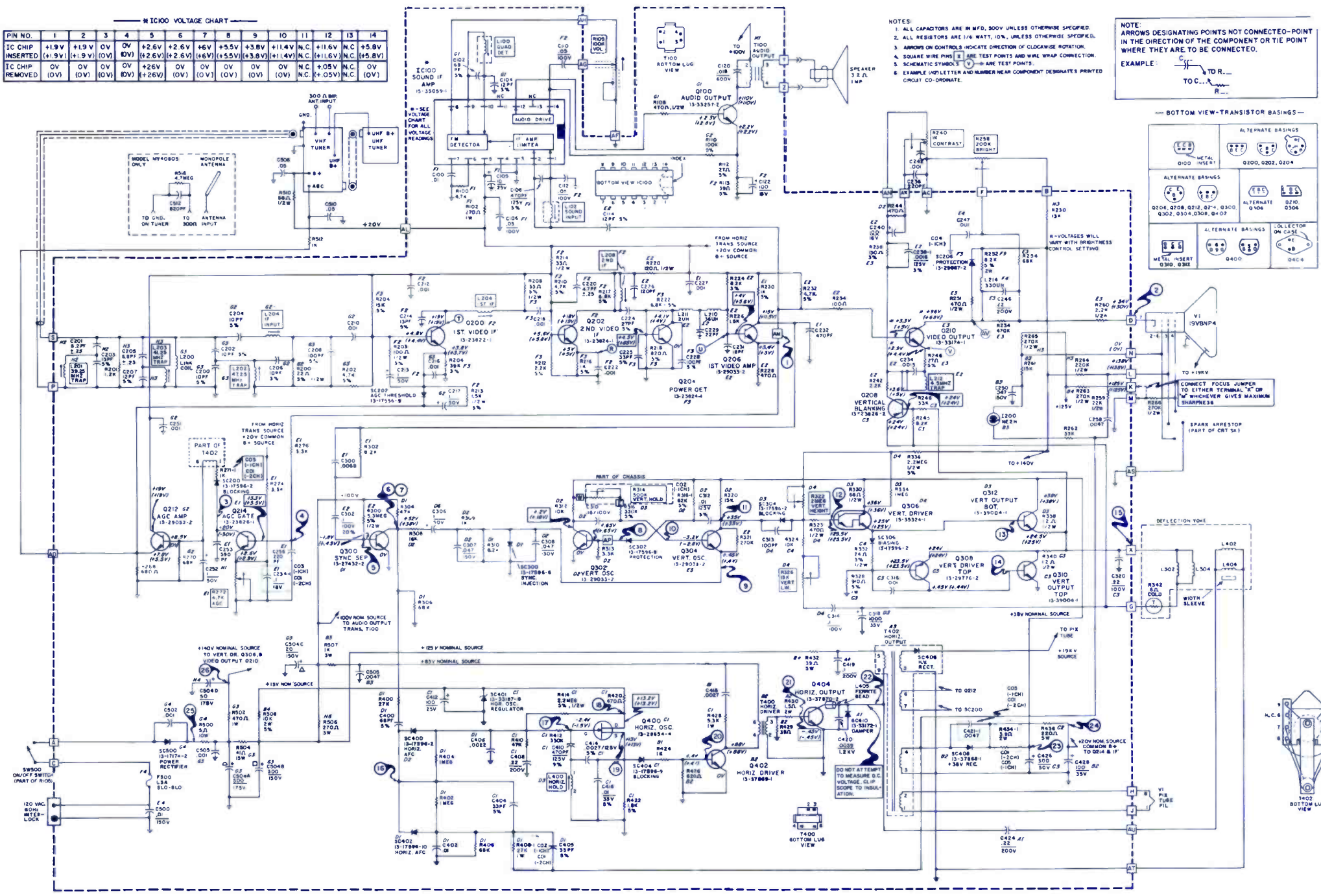


NOTES:  
1. ALL RESISTORS ARE 1/2 WATT UNLESS OTHERWISE SPECIFIED.  
2. ALL CAPACITORS ARE MFD, 50V UNLESS OTHERWISE SPECIFIED.  
3. ALL VOLTAGES ARE TAKEN WITH NO SIGNAL APPLIED, MEASURED FROM GROUND WITH A VTVM

SCHMATIC DIAGRAM - VHF TUNER

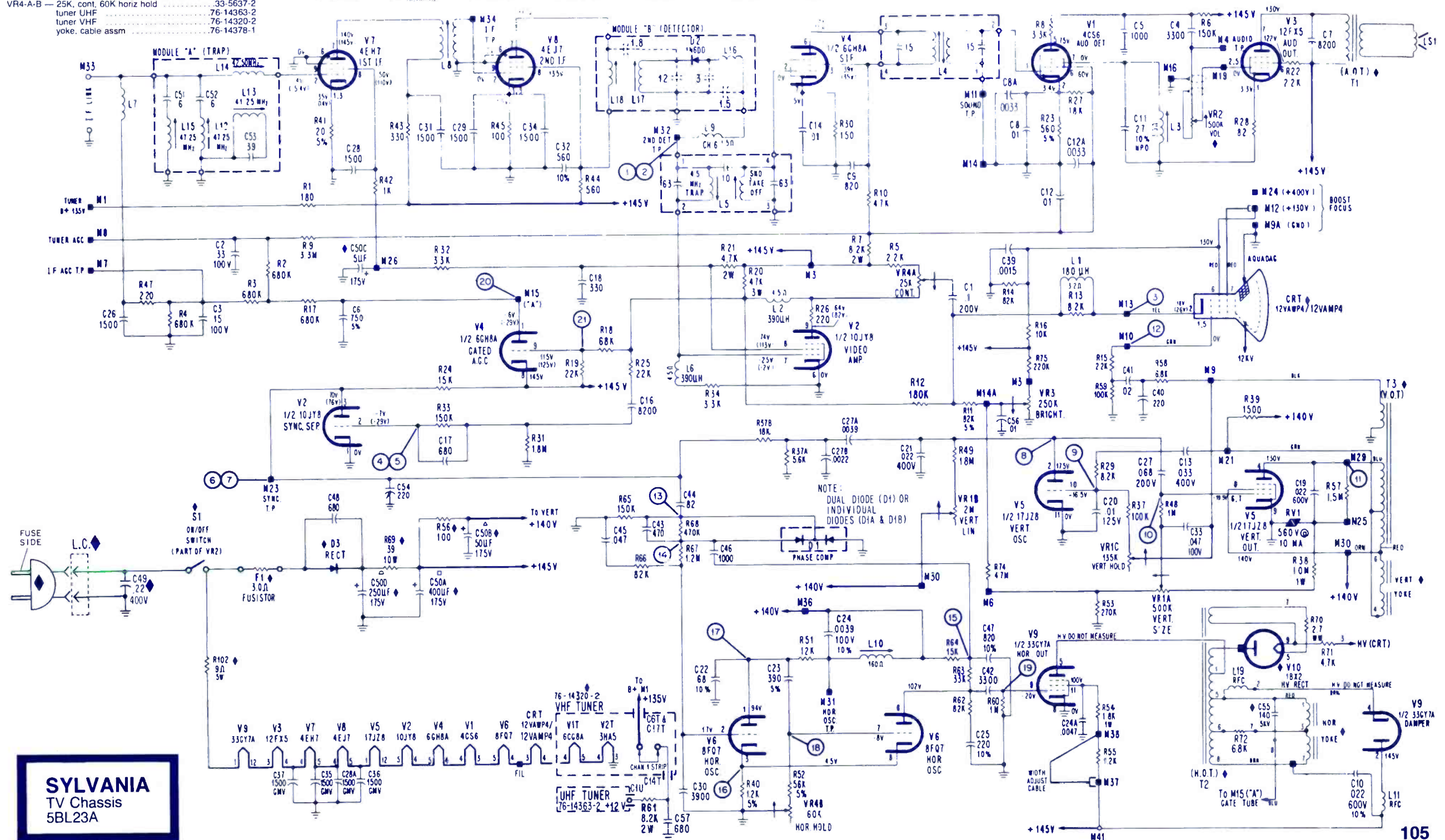
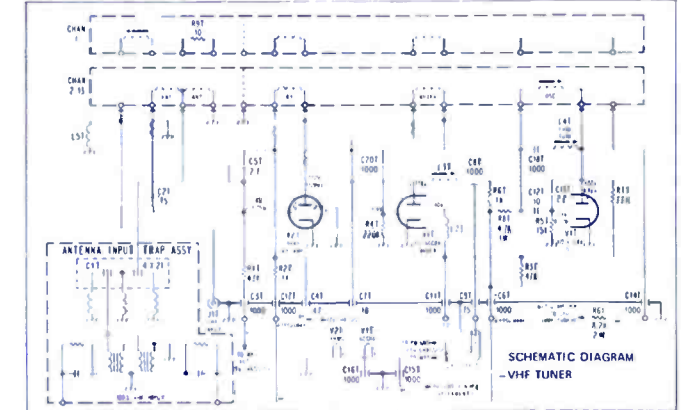
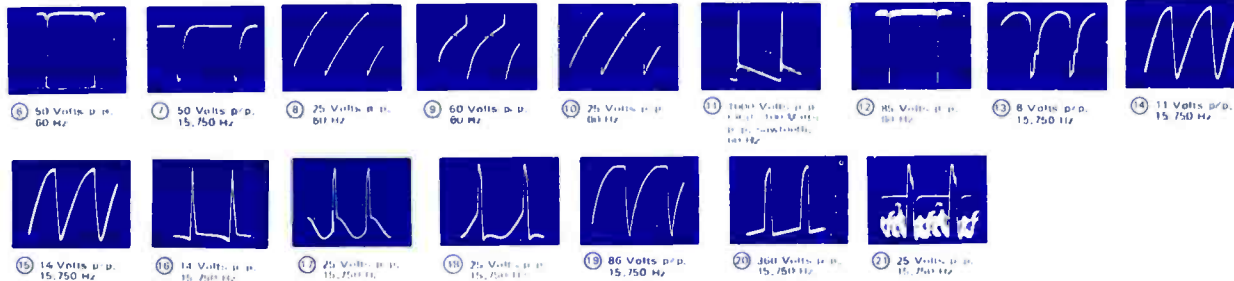
**100V VOLTAGE CHART**

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)	OV (OV)	OV (OV)	+2.6V (+2.6V)	+2.6V (+2.6V)	+6V (+6V)	+5.5V (+5.5V)	+3.8V (+3.8V)	+1.4V (+1.4V)	N.C. (+1.6V)	N.C. (+1.6V)	N.C. (+5.8V)	N.C. (+5.8V)
IC CHIP REMOVED	OV (OV)	OV (OV)	OV (OV)	OV (OV)	+2.6V (+2.6V)	OV (OV)	OV (OV)	OV (OV)	OV (OV)	OV (OV)	N.C. (+0.5V)	N.C. (+0.5V)	N.C. (OV)	N.C. (OV)



**SYMBOL DESCRIPTION SYLVANIA PART NO.**

C50A-D — 400, 50, 5, 250mhd, 175v	30-2626-1
F1 — 3.0 ohms, fusistor	33-1381-5
L3 — quad, snd, det	32-4876-1
L4 — sound IF	32-4745-12
L5 — 4.5MHz trap, sound TO	32-4688-13
R102 — 9 ohms, 5w	33-1363-181
RV1 — varistor, 560v @ 10 MA, vert out	33-1373-6
T1 — audio output	32-10161-1
T2 — horiz output	32-10177-2
T3 — vert output	32-10176-1
VR1 — 500K, vert size, 2M lin, 135K	33-5637-1
A-B-C — hold	33-5646-16
VR2 — 500K, vol, on/off switch	33-5631-13
VR3 — 250K, brite	33-5637-2
VR4-A-B — 25K, cont, 60K horiz hold	76-14363-2
tuner UHF	76-14320-2
tuner VHF	76-14320-2
yoke, cable assm	76-14378-1



**SYLVANIA**  
TV Chassis  
5BL23A

SYMBOL	DESCRIPTION	SYLVANIA PART NO.
C504	4 section electro	41-37861-1
A	500-175v	
B	300-150v	
C	20-150v	
D	30-175v	
L100	coil, quad detect	50-33195-2
L102	coil, sound input	50-35989-1
L201	coil, 39.75MHz trap	57-23832-1
L202	coil, 47.25 MHz trap	50-37714-4
L212	coil, 4.5MHz trap	50-37714-3
L400	coil, horiz hold	50-39870-2

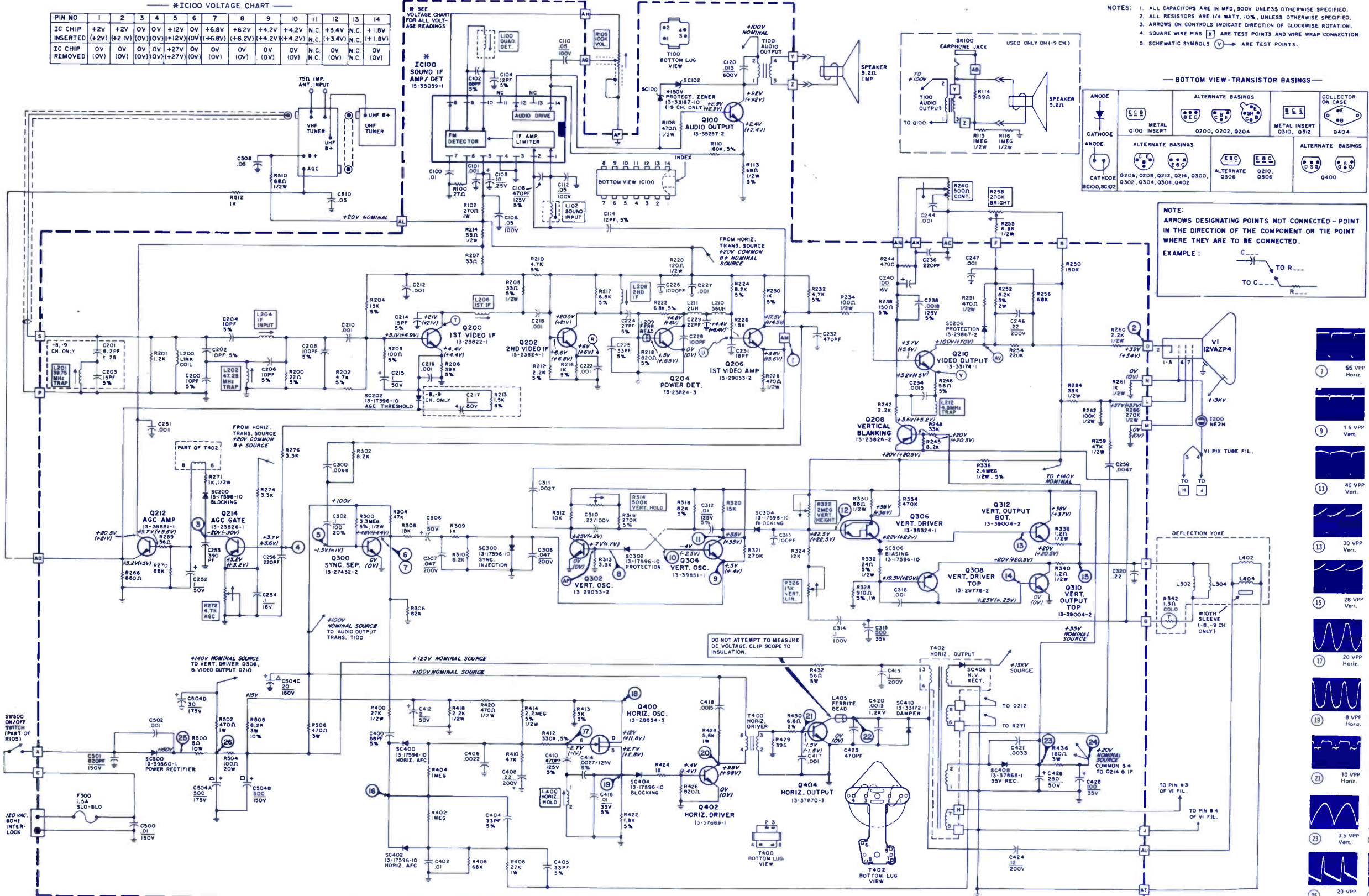
T100	xformer, audio output	56-37872-1
T400	xformer, horiz drive	56-37922-1
T402	xformer, horiz output	50-39871-1
SC100,		
SC102	+150 protect zener, -9 ch	13-33187-10
SC410	dampner	13-33172-1
R105	100K, vol	37-35105-10
R240	500 ohm, contrast	37-39237-10
R258	200K, brite	37-27242-57
R272	4.7K, AGC	37-23063-10
R314	500K, vert hold	37-33036-14
F500	fuse, 1.5a, slo-blo	29-37730-3
1C100	integ, sound IF/det	15-35059-1

**\*IC100 VOLTAGE CHART**

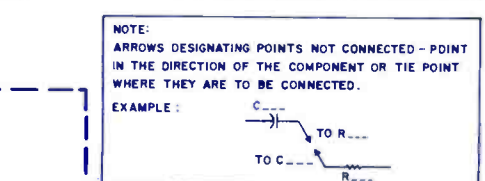
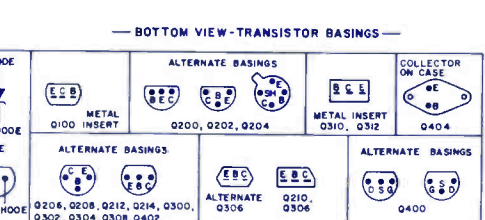
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC CHIP INSERTED	+2V	+2V	OV	+12V	OV	+6.8V	+6.2V	+4.2V	+4.2V	N.C.	+3.4V	N.C.	+1.8V	
IC CHIP REMOVED	OV	OV	OV	+27V	OV	OV	OV	OV	OV	OV	N.C.	OV	N.C.	OV

\* SEE VOLTAGE CHART FOR ALL VOLTAGE READINGS

\* IC100 SOUND IF AMP/DET 15-35059-1



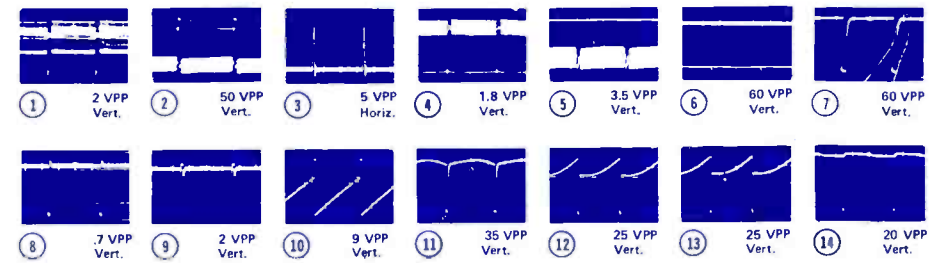
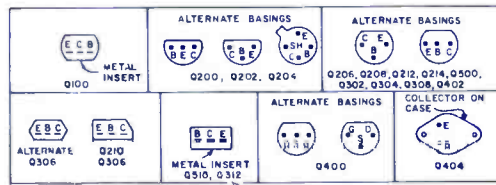
- NOTES:
1. ALL CAPACITORS ARE IN MFD, 500V UNLESS OTHERWISE SPECIFIED.
  2. ALL RESISTORS ARE 1/4 WATT, 10%, UNLESS OTHERWISE SPECIFIED.
  3. ARROWS ON CONTROLS INDICATE DIRECTION OF CLOCKWISE ROTATION.
  4. SQUARE WIRE PINS [X] ARE TEST POINTS AND WIRE WRAP CONNECTION.
  5. SCHEMATIC SYMBOLS (V) ARE TEST POINTS.



- 1 2 VPP Vert.
- 2 50 VPP Vert.
- 3 10 VPP Horiz.
- 4 1.5 VPP Vert.
- 5 3 VPP Vert.
- 6 55 VPP Vert.
- 7 55 VPP Horiz.
- 8 7 VPP Vert.
- 9 1.5 VPP Vert.
- 10 10 VPP Vert.
- 11 40 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 6 VPP Horiz.
- 19 8 VPP Horiz.
- 20 210 VPP Horiz.
- 21 10 VPP Horiz.
- 22 Depends on amount of coupling Horiz.
- 23 3.5 VPP Vert.
- 24 3 VPP Vert.
- 25 20 VPP Horiz.
- 26 5 VPP Horiz.

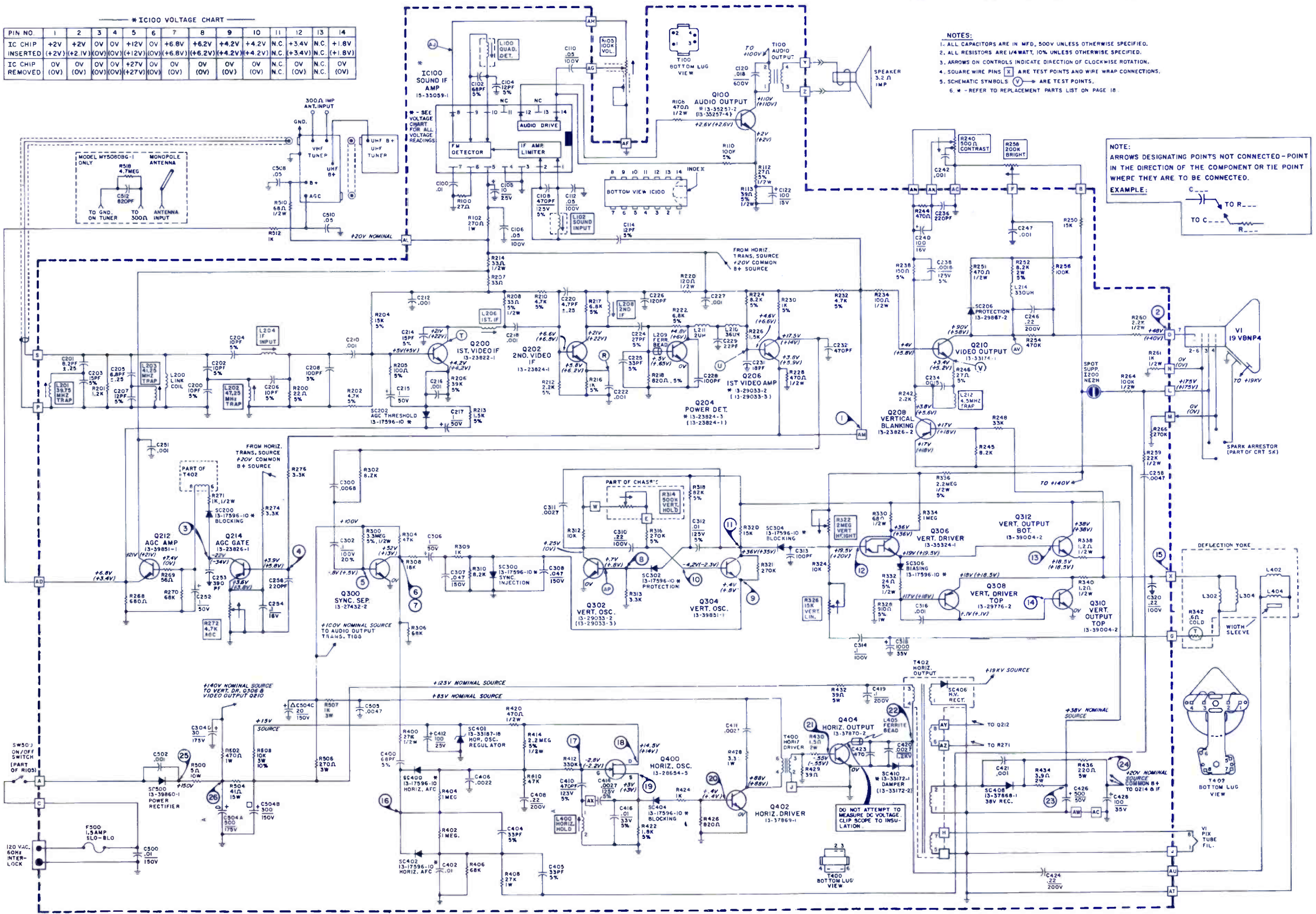
**SYLVANIA**  
TV Chassis  
A19-3

BOTTOM VIEW-TRANSISTOR BASINGS

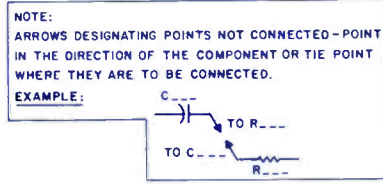


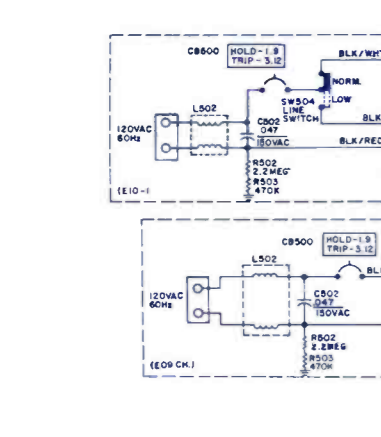
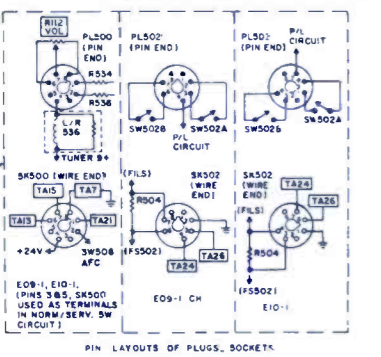
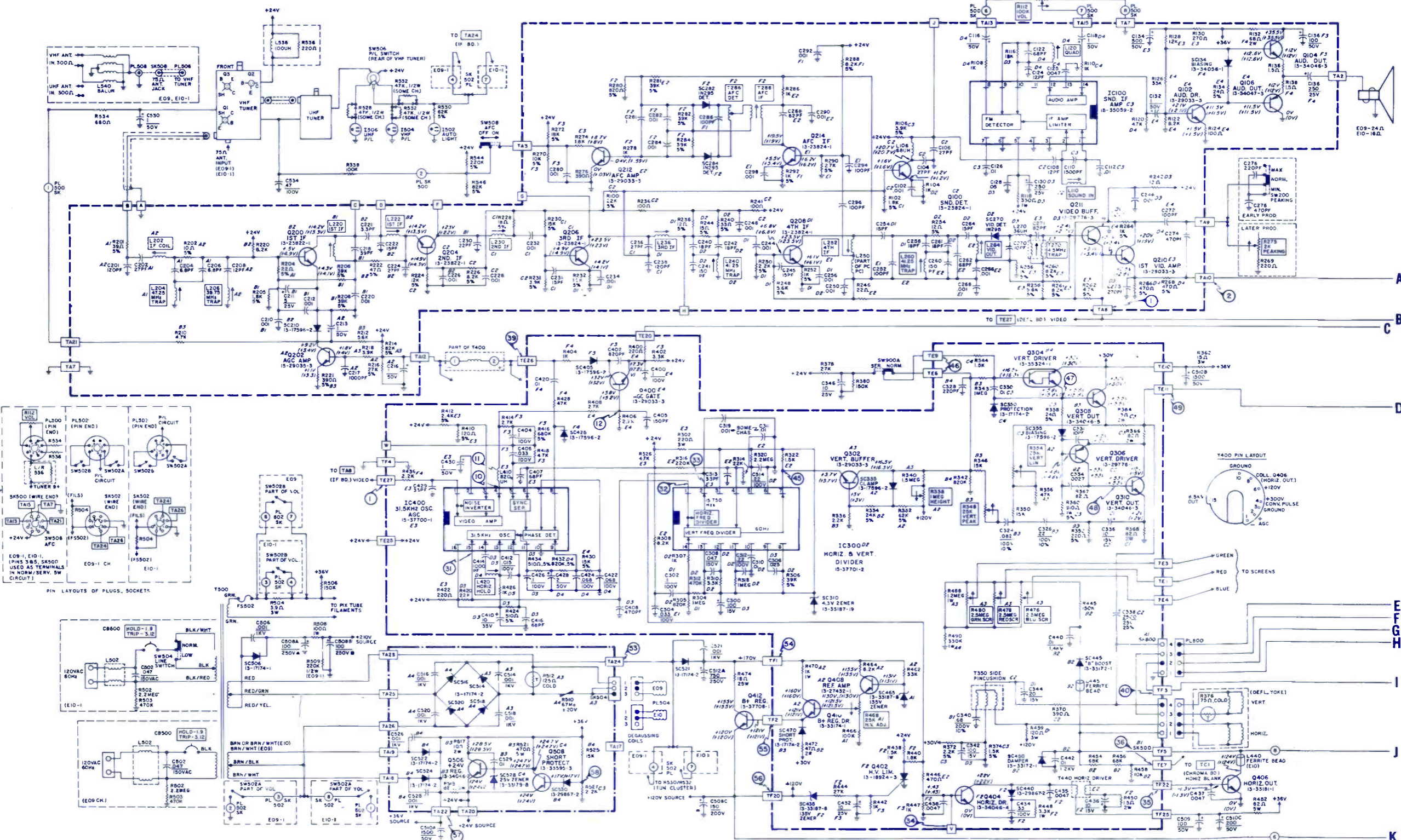
**\* IC100 VOLTAGE CHART**

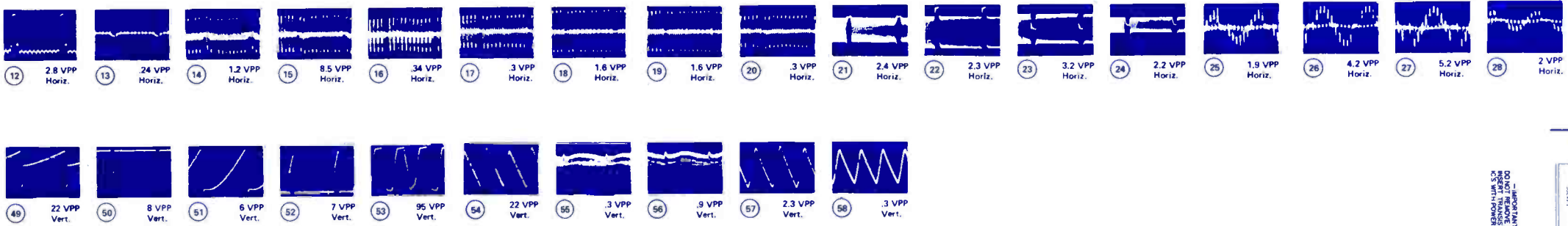
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC CHIP INSERTED	+2V	+2V	OV	+12V	OV	+6.8V	+6.2V	+4.2V	+4.2V	N.C.	+3.4V	N.C.	+1.8V	
IC CHIP REMOVED	(OV)	(OV)	(OV)	(OV)	(OV)	(OV)	(OV)	(OV)	(OV)	N.C.	(OV)	N.C.	(OV)	



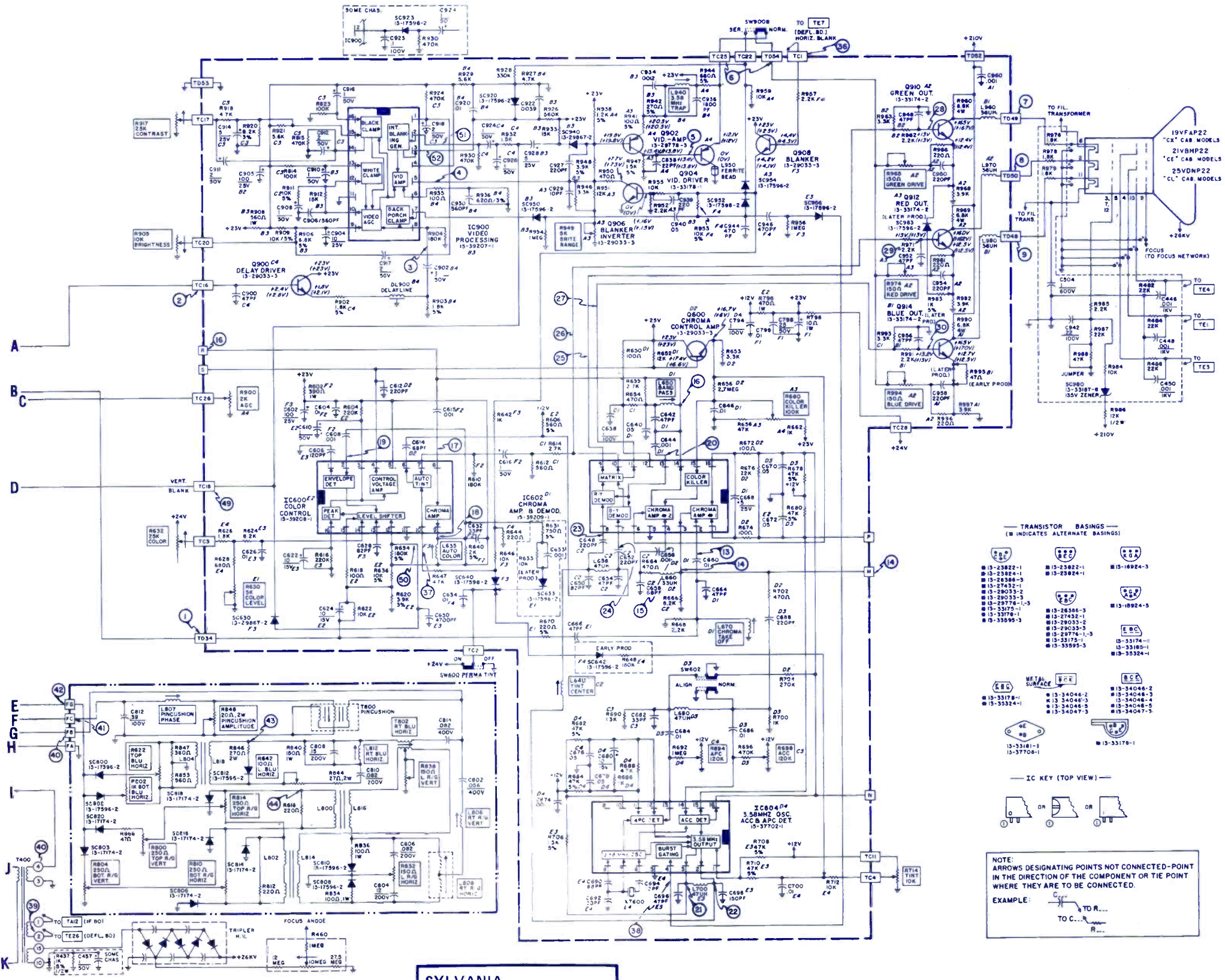
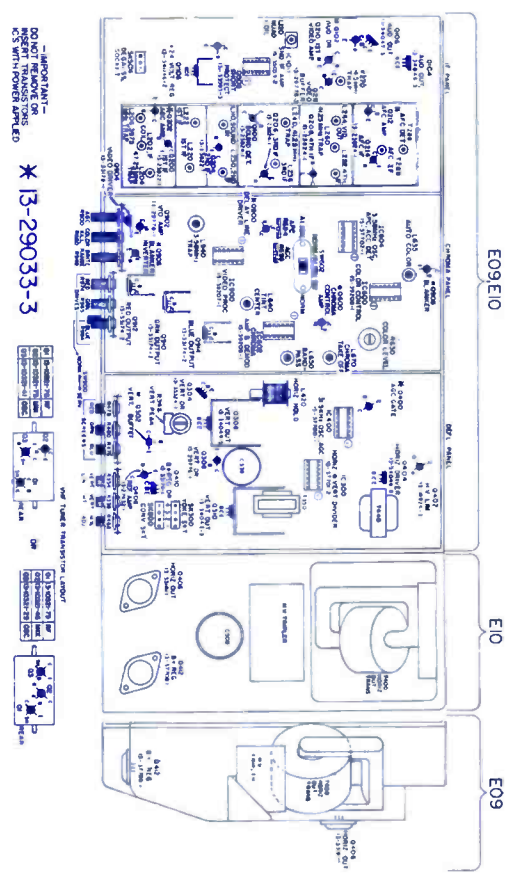
- NOTES:**
1. ALL CAPACITORS ARE IN MFD, 500V UNLESS OTHERWISE SPECIFIED.
  2. ALL RESISTORS ARE 1/4WATT, 10% UNLESS OTHERWISE SPECIFIED.
  3. ARROWS ON CONTROLS INDICATE DIRECTION OF CLOCKWISE ROTATION.
  4. SQUARE WIRE PINS ARE TEST POINTS AND WIRE WRAP CONNECTIONS.
  5. SCHEMATIC SYMBOLS ARE TEST POINTS.
  6. \* - REFER TO REPLACEMENT PARTS LIST ON PAGE 18.







TRANSISTOR LAYOUT



DO NOT REPAIR OR  
REPLACE PARTS  
ON THIS CHASSIS  
UNLESS THE  
SERIAL NUMBER IS  
13-29033-3

**TRANSISTOR BASINGS**  
(W INDICATES ALTERNATE BASINGS)

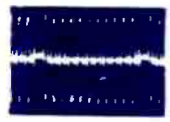
<ul style="list-style-type: none"> <li>13-23822-1</li> <li>13-23822-1</li> <li>13-23822-1</li> <li>13-27432-1</li> <li>13-28032-2</li> <li>13-29032-3</li> <li>13-29776-1-3</li> <li>13-33178-1</li> <li>13-33095-3</li> </ul>	<ul style="list-style-type: none"> <li>13-23822-1</li> <li>13-23822-1</li> <li>13-23822-1</li> <li>13-27432-1</li> <li>13-28032-2</li> <li>13-29032-3</li> <li>13-29776-1-3</li> <li>13-33178-1</li> <li>13-33095-3</li> </ul>	<ul style="list-style-type: none"> <li>13-16924-3</li> <li>13-16924-3</li> <li>13-16924-3</li> <li>13-16924-3</li> <li>13-16924-3</li> <li>13-33178-1</li> <li>13-33178-1</li> <li>13-33178-1</li> <li>13-33178-1</li> <li>13-33178-1</li> </ul>
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**IC KEY (TOP VIEW)**

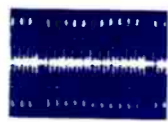
**NOTE:** ARROWS DESIGNATING POINTS NOT CONNECTED—POINT IN THE DIRECTION OF THE COMPONENT OR TIE POINT WHERE THEY ARE TO BE CONNECTED.

**EXAMPLE:** TO C... TO R...

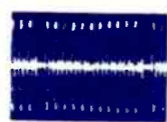
SYMBOL	DESCRIPTION	SYLVANIA PART NO.
C508	3 section electrolytic	41-37720-1
A	100/250V	
B	100/250V	
C	150/200V	
C510	3 section electrolytic	41-37580-1
A	1500/50V	
B	1500/50V	
C	200/50V	
L120	quad early prod	50-33195-1
L120	quad later prod	50-33195-2
L420	horiz hold	50-37711-4
R112	100K volume E09-1, E10-1	37-35924-1
R112	100K volume E09-14	37-27242-41
R460	focus network	32-37705-1
R632	25K color E09-1, -14	37-27242-43
R632	25K color E10-1	37-27242-48
R905	10K bribe E09-1, -14	37-27242-40
R905	10K bribe E10-1	37-27242-45
R917	25K contrast E09-1, -14	37-27242-53
R917	25K contrast E10-1	37-27242-54
IC300	horiz vert divide early prod	15-37701-1
IC300	horiz vert divider later prod	15-37701-2
IC400	31.5kHz osc AGC	15-37700-1
IC500	color control	15-39208-1
IC502	chroma amp demod	15-39209-1
IC504	3.58MHz osc ACC APC	15-37702-1
IC900	video processing	50-35309-1
T270	4.5MHz trap	50-37712-1
T350	side pincushion	50-39287-1
T400	horiz output	55-37722-1
T500	power E09-1, -14	55-37722-3
T500	power E10-1	55-11121-1
T502	low voltage E09-14	29-39963-13
CB500	circuit breaker	73-10302-12
PL300	plug deflct yoke tripler HV E09-1, -14	32-35894-3
	tripler HV E10-1	32-35894-7
	VHF E09-14	54-37851-2
	VHF E10-1	54-37851-1



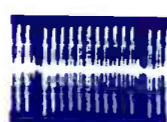
17 .46 VPP Horiz.



18 .68 VPP Horiz.



19 .68 VPP Horiz.



20 .45 VPP Horiz.



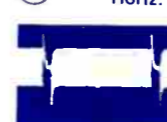
21 2.3 VPP Horiz.



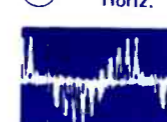
22 2.2 VPP Horiz.



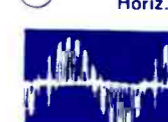
23 3 VPP Horiz.



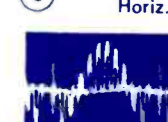
24 2 VPP Horiz.



25 1.9 VPP Horiz.



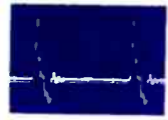
26 5.6 VPP Horiz.



27 6.6 VPP Horiz.



39 .64 VPP Horiz.



40 13.5 VPP Horiz.



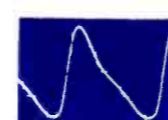
41 350 VPP Horiz.



42 34 VPP Vert.



43 25 VPP Vert.



44 50 VPP Horiz.



45 5.2 VPP Vert.



46 4.8 VPP Vert.



47 26 VPP Vert.

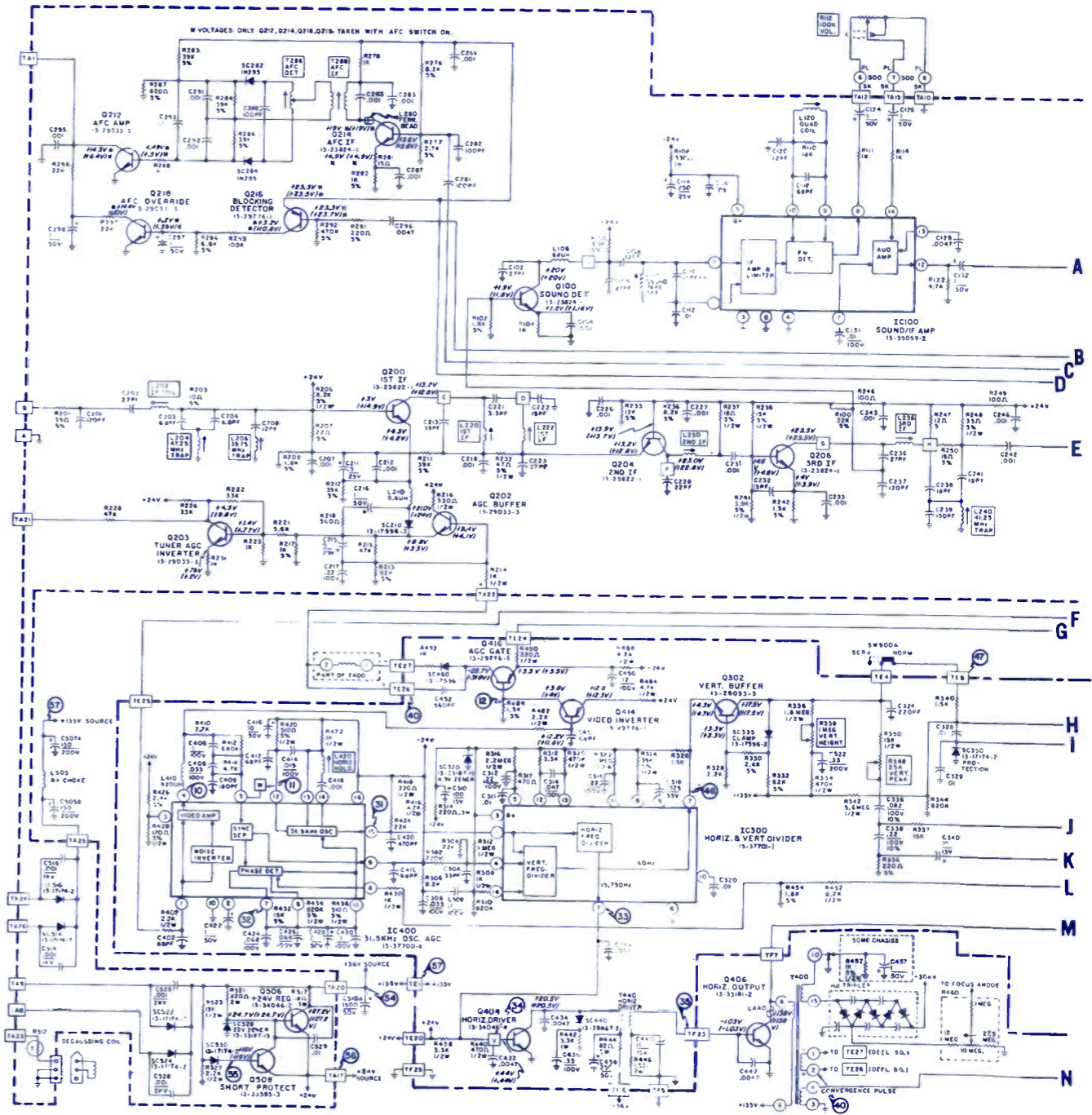
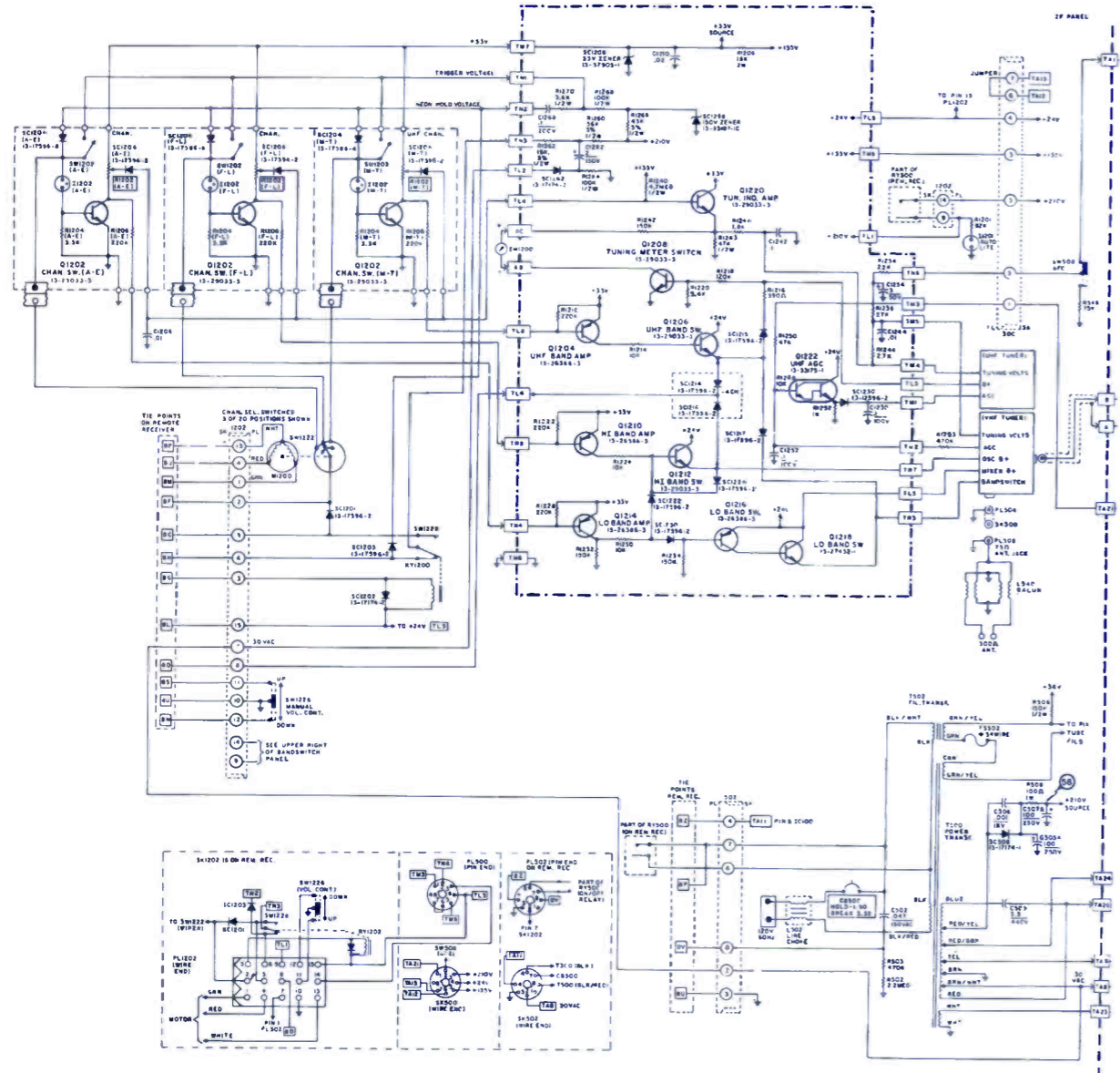


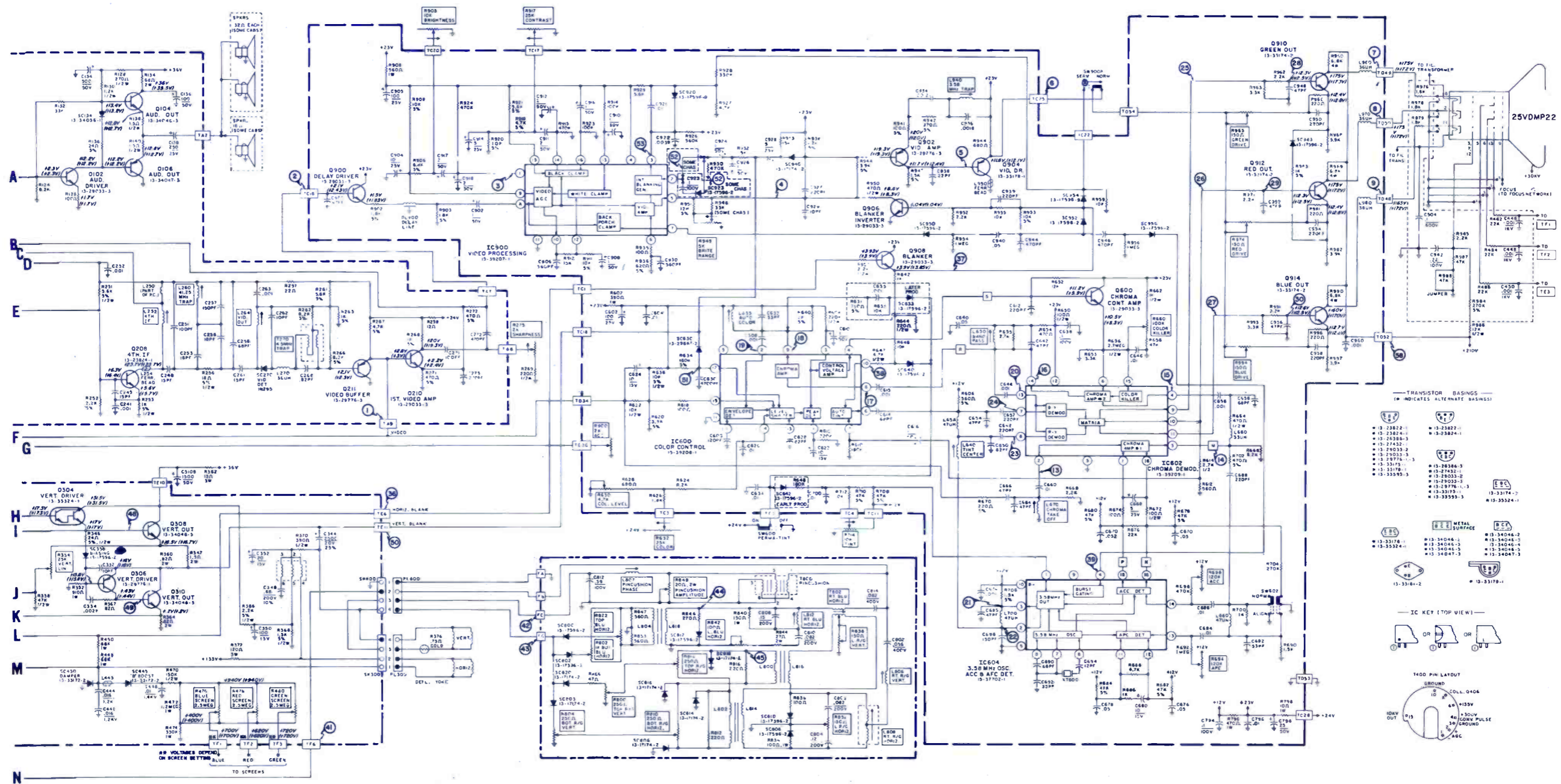
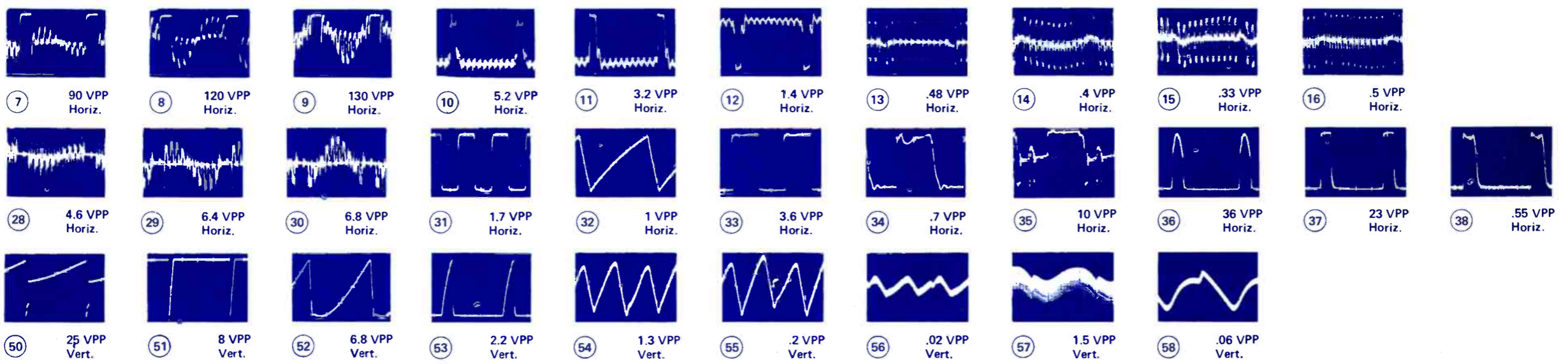
48 25 VPP Vert.



49 14 VPP Vert.

TUNER CLUSTER/POWER SUPPLY (E11-4)

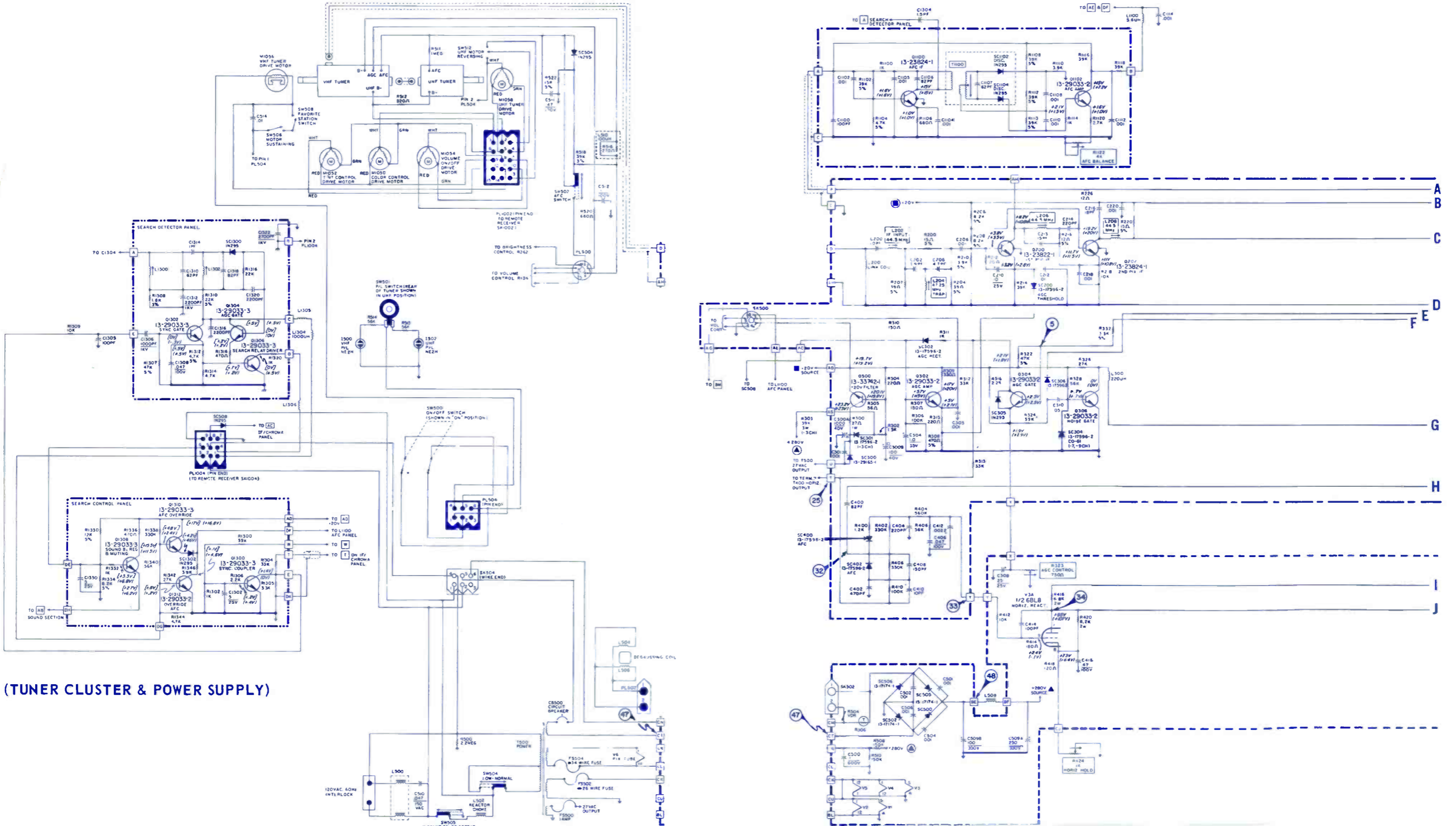
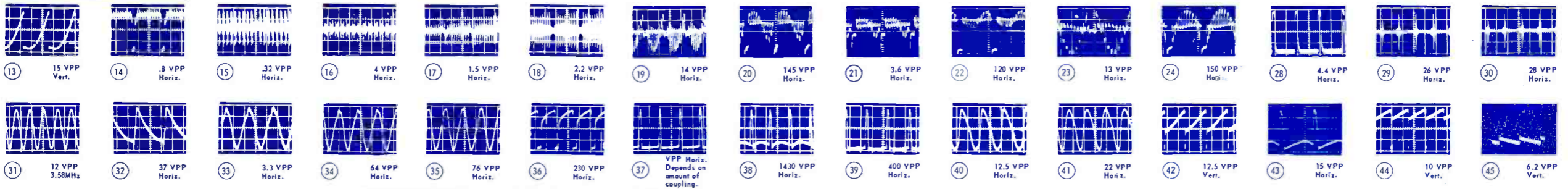




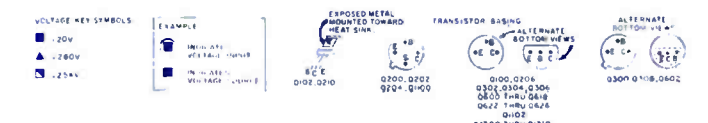
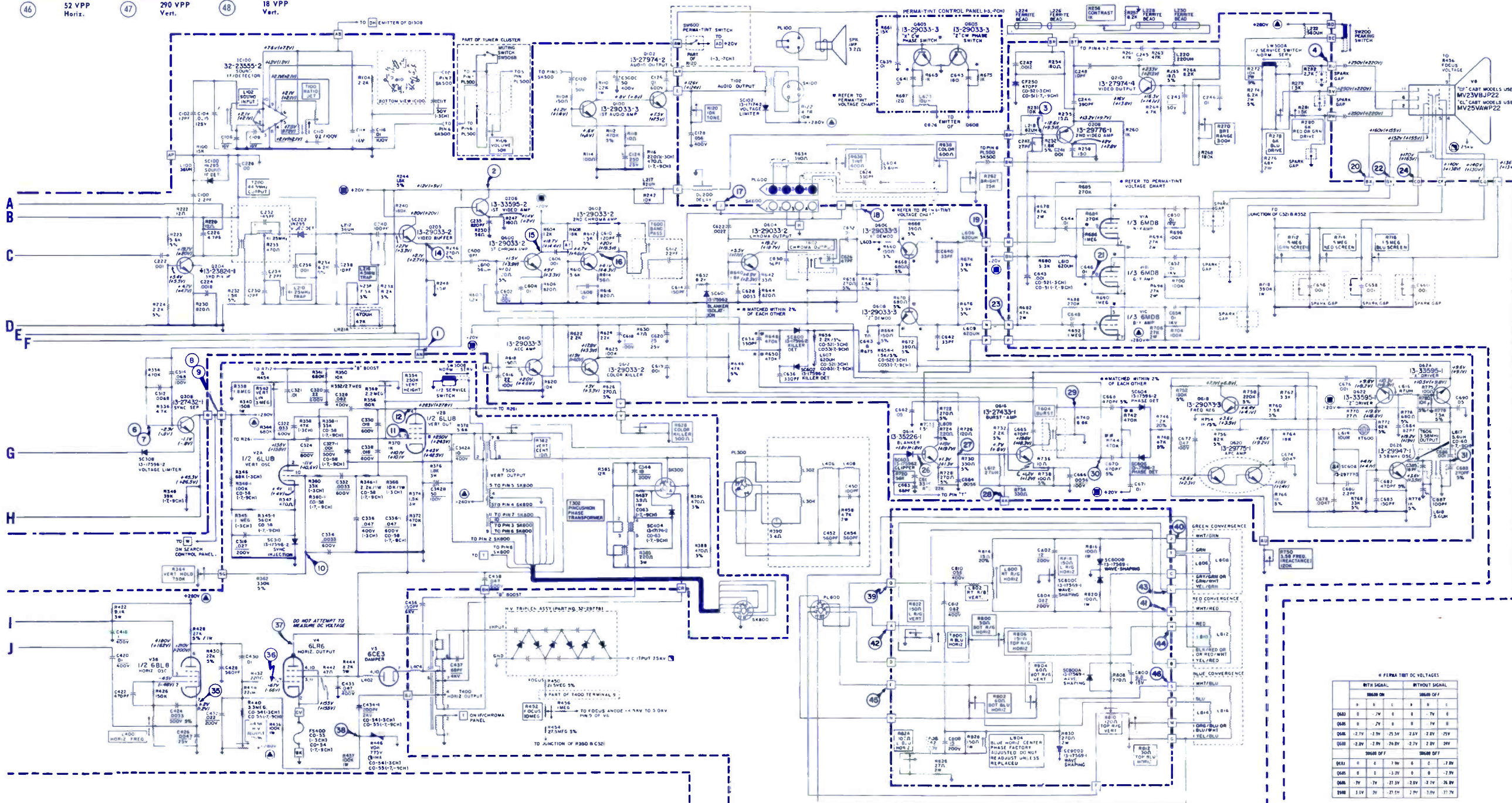
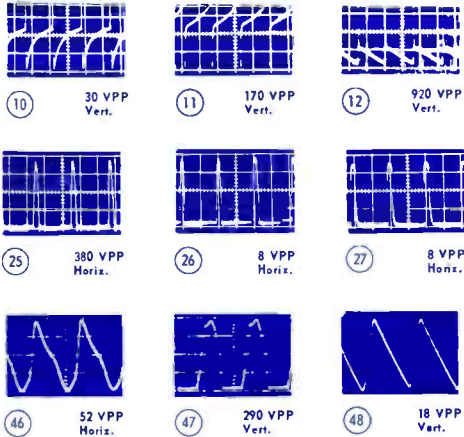


# SYLVANIA

Color TV Chassis  
D16-3 Thru -9



(TUNER CLUSTER & POWER SUPPLY)



PERMANENT DC VOLTAGES

SIGNAL	WITH SIGNAL					WITHOUT SIGNAL				
	1	2	3	4	5	6	7	8	9	10
0A2	-2.7V	0	0	0	-7V	0	0	0	0	0
0A8	-2.7V	0	0	0	-14V	0	0	0	0	0
0A9	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V
0B0	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V
0B1	0	0	0	0	0	0	0	0	0	0
0B2	0	0	0	0	0	0	0	0	0	0
0B3	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V	-2.7V
0B4	2.7V	2.7V	2.7V	2.7V	2.7V	2.7V	2.7V	2.7V	2.7V	2.7V

V1 (600)

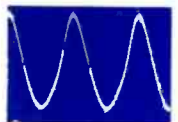
FUNCTION	R	Y	G	B	T
WITH SIGNAL ON	15.2V	-14.3V	-14.9V	-17V	-16.9V
SIGNAL OFF	15.0V	-12.7V	-14.9V	-15.9V	-15.3V
WITHOUT SIGNAL	14.9V	15V	-14.9V	-15.9V	-17V
SIGNAL	14.9V	15V	-14.7V	-15.9V	-16.4V

**SYLVANIA**  
Color TV Chassis  
D16-3 Thru -9

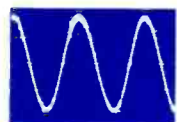
SYLVANIA

Color TV Chassis  
E08-1

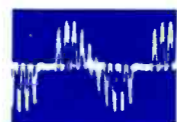
APRIL • 1975



10 0.8 VPP  
3.58MHz



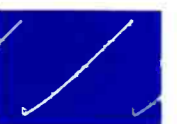
11 1 VPP  
3.58MHz



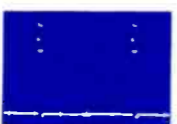
12 4.4 VPP  
Horiz.



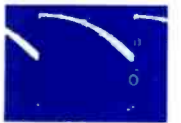
24 6.8 VPP  
Vert.



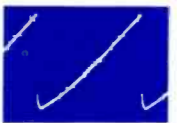
25 4.4 VPP  
Vert.



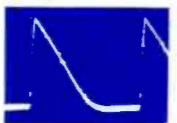
26 25 VPP  
Vert.



27 4 VPP  
Vert.



28 3 VPP  
Vert.



29 2 VPP  
Vert.



30 28 VPP  
Vert.



31 5 VPP  
Horiz.



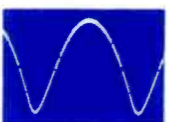
32 40 VPP  
Horiz.



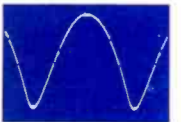
33 13 VPP  
Vert.



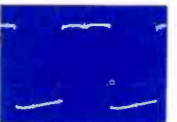
34 4 VPP  
Vert.



35 8 VPP  
Vert.



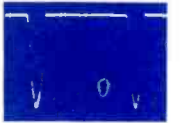
36 10 VPP  
Vert.



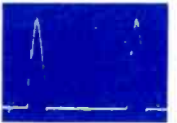
37 3.2 VPP  
Horiz.



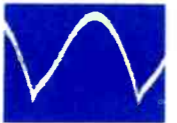
38 150 VPP  
Horiz.



39 480 VPP  
Horiz.



40 440 VPP  
Horiz.



41 2.5 VPP  
Vert.



42 90 VPP  
Horiz.



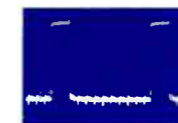
43 6.6 VPP  
Vert.



1 2.2 VPP  
Horiz.



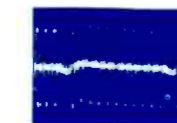
2 1.3 VPP  
Horiz.



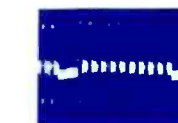
3 12 VPP  
Horiz.



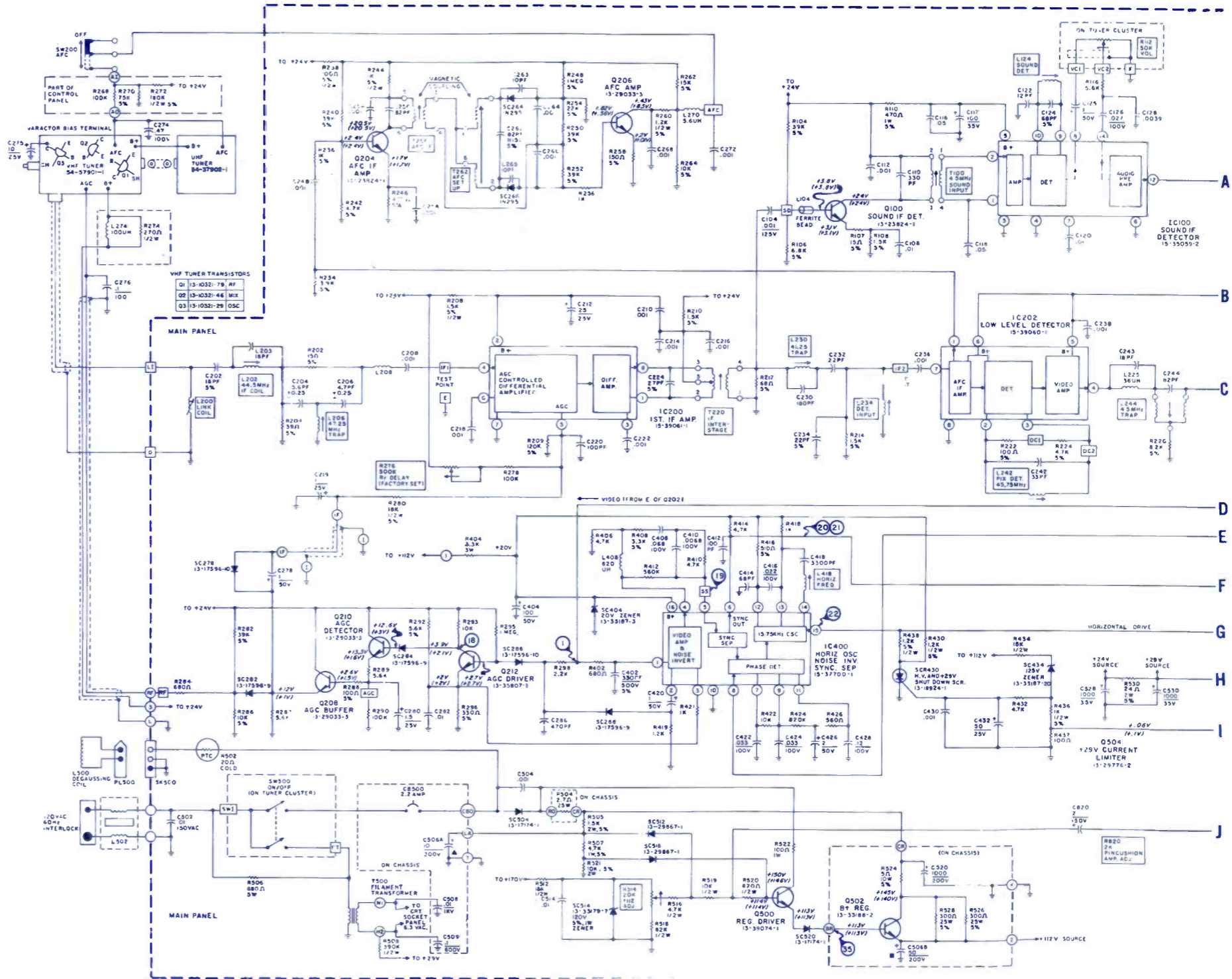
4 12 VPP  
Vert.

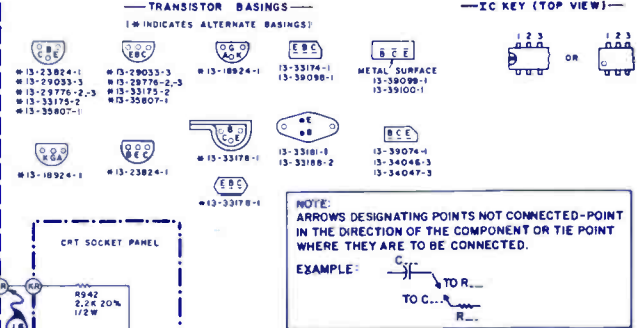
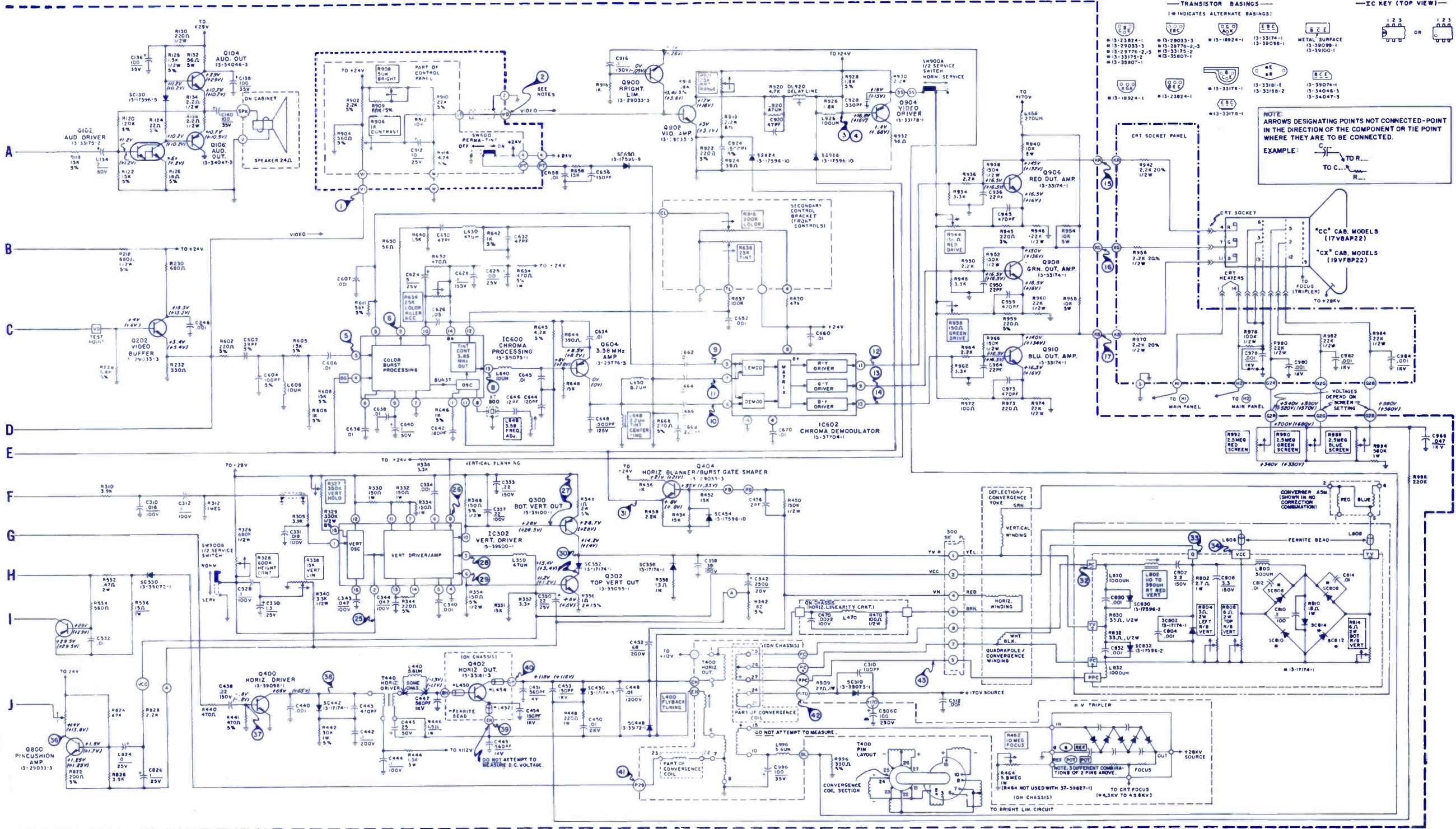


5 .06 VPP  
Horiz.



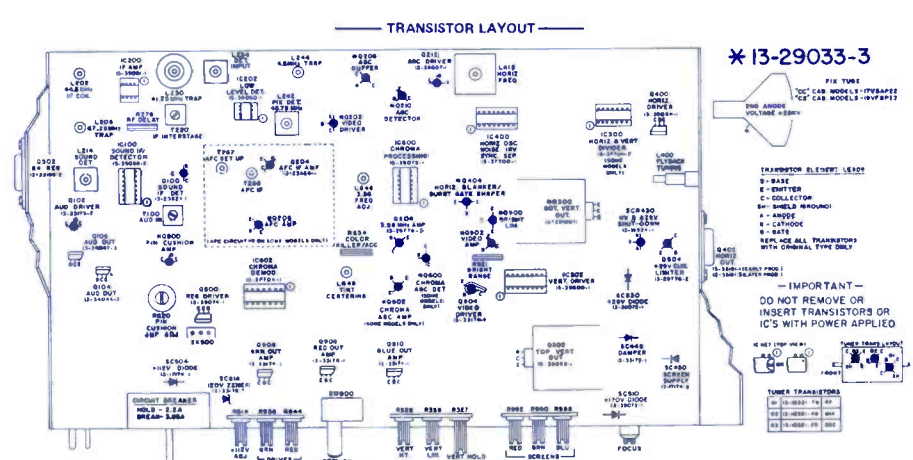
6 .32 VPP  
Horiz.





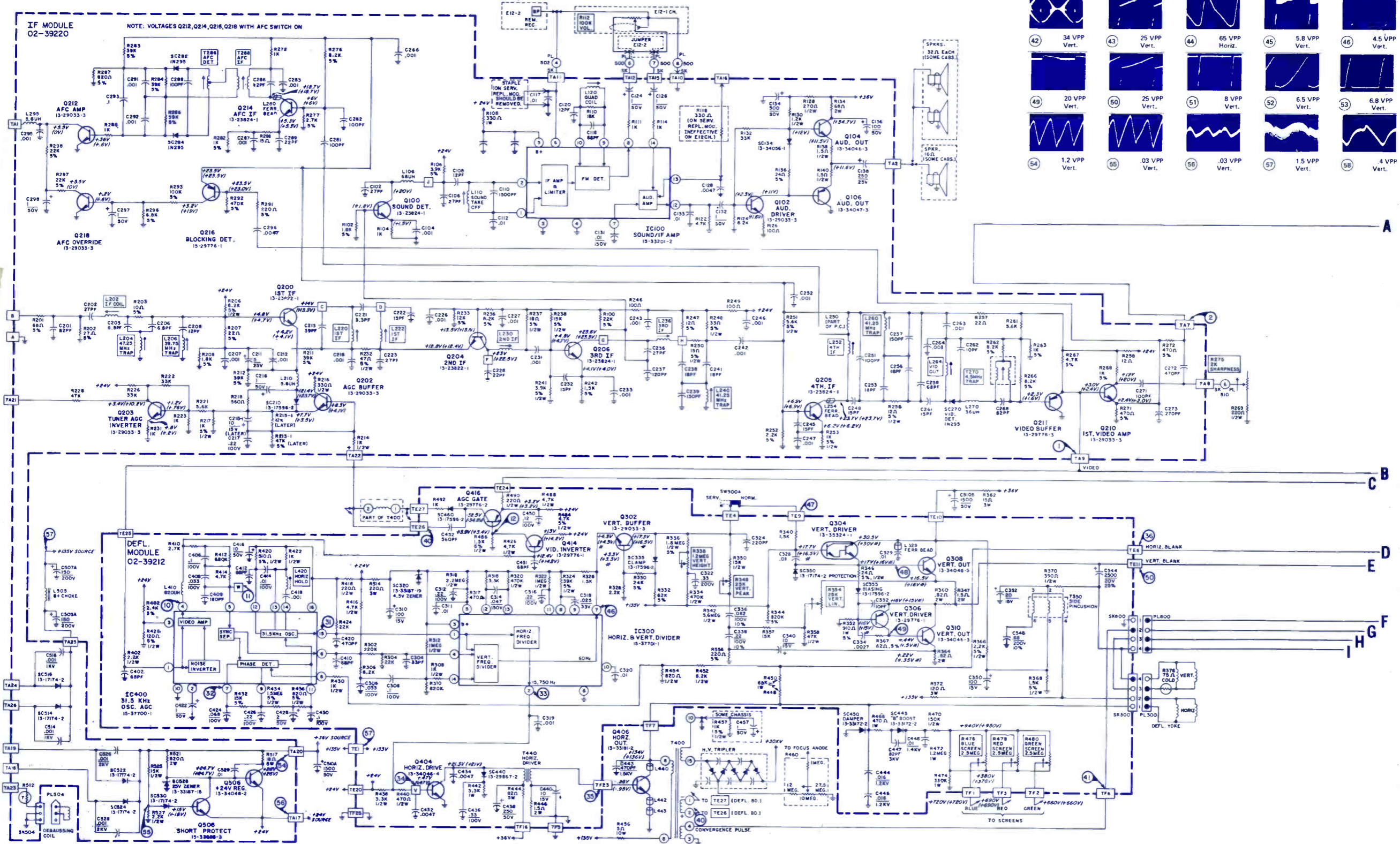
**SYLVANIA Color TV Chassis E08-1**

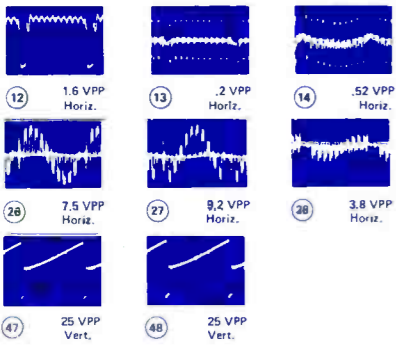
7 1.8 VPP Horiz.	8 .16 VPP 3.58MHz	9 .3 VPP Horiz.
21 20 VPP Horiz.	22 2.6 VPP Horiz.	23 2 VPP Vert.



SYMBOL	DESCRIPTION	SYLVANIA PART NO.
C506	three section electro.	41-39071-1
A	10/200v	
B	50/200v	
C	100/250v	
L244	4.5MHz trap	50-35309-1
L418	horiz freq early prod	50-39121-1
L418	horiz freq later prod	50-39121-2
L648	tint center	50-39053-1
T100	4.5MHz sound input	50-39084-1
T400	HV	50-39234-1
T440	horiz drive	56-39101-1
T500	filament	55-39078-2
CB500	circuit breaker	29-39696-4
R276	500K RF delay	37-14576-12
R328	600K vert height -2 CH.	37-33036-17
R338	15K vert lin	part of R328
R514	20K, +112v adj.	37-33036-18
R616	200K color 1, 3 CH	37-29783-24
R616	5K color -2 CH	37-15902-4
R634	25K color kill	37-14576-19
R636	25K tint -2 CH	part of R616
R906	1K contrast	37-15902-5
R921	25K brite range	37-14576-19

**SYLVANIA**  
Color TV Chassis  
E12-1, -2



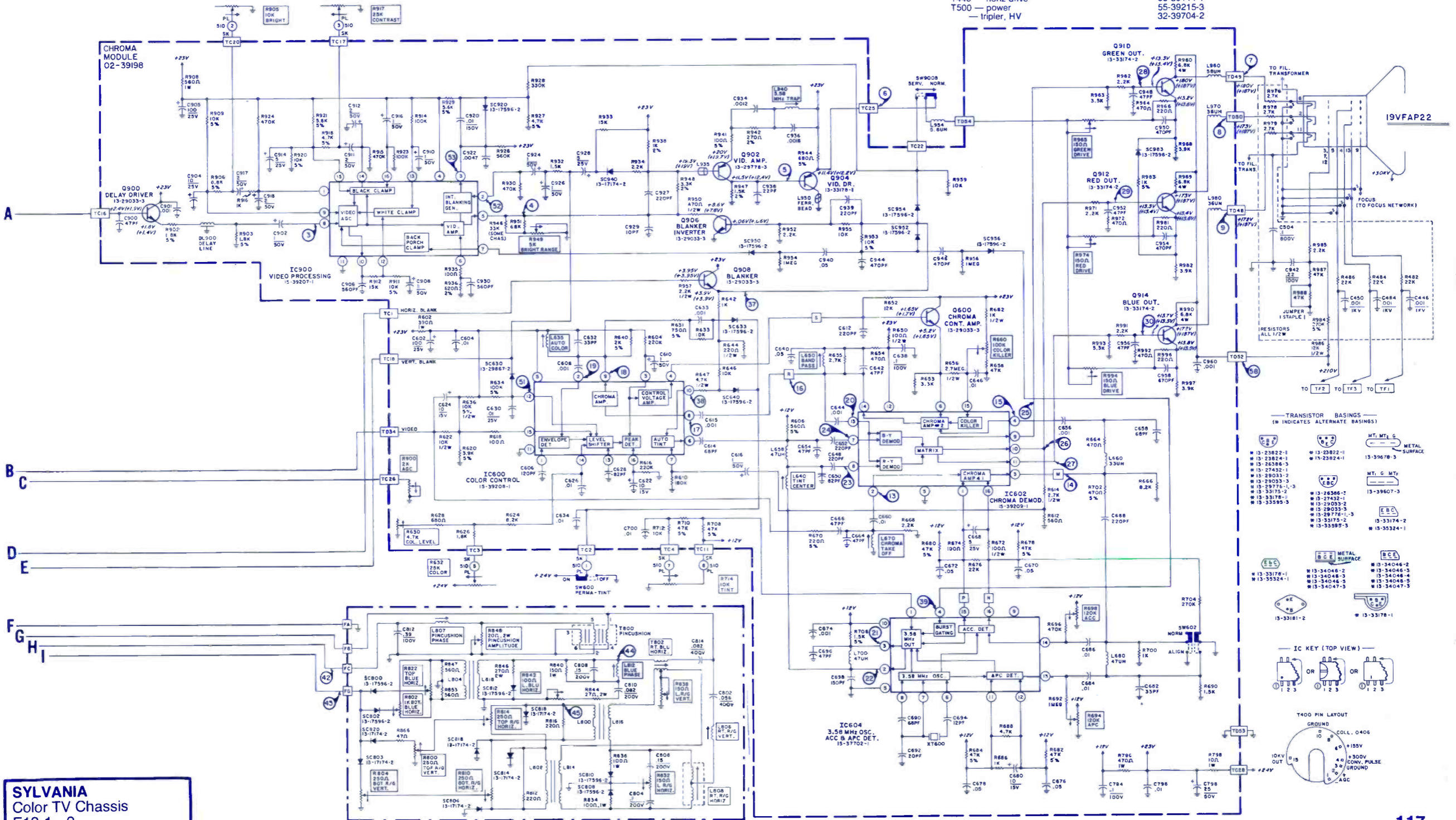


IC VOLTAGE CHART (TV CHASSIS)  
(ALL IN VOLTS)

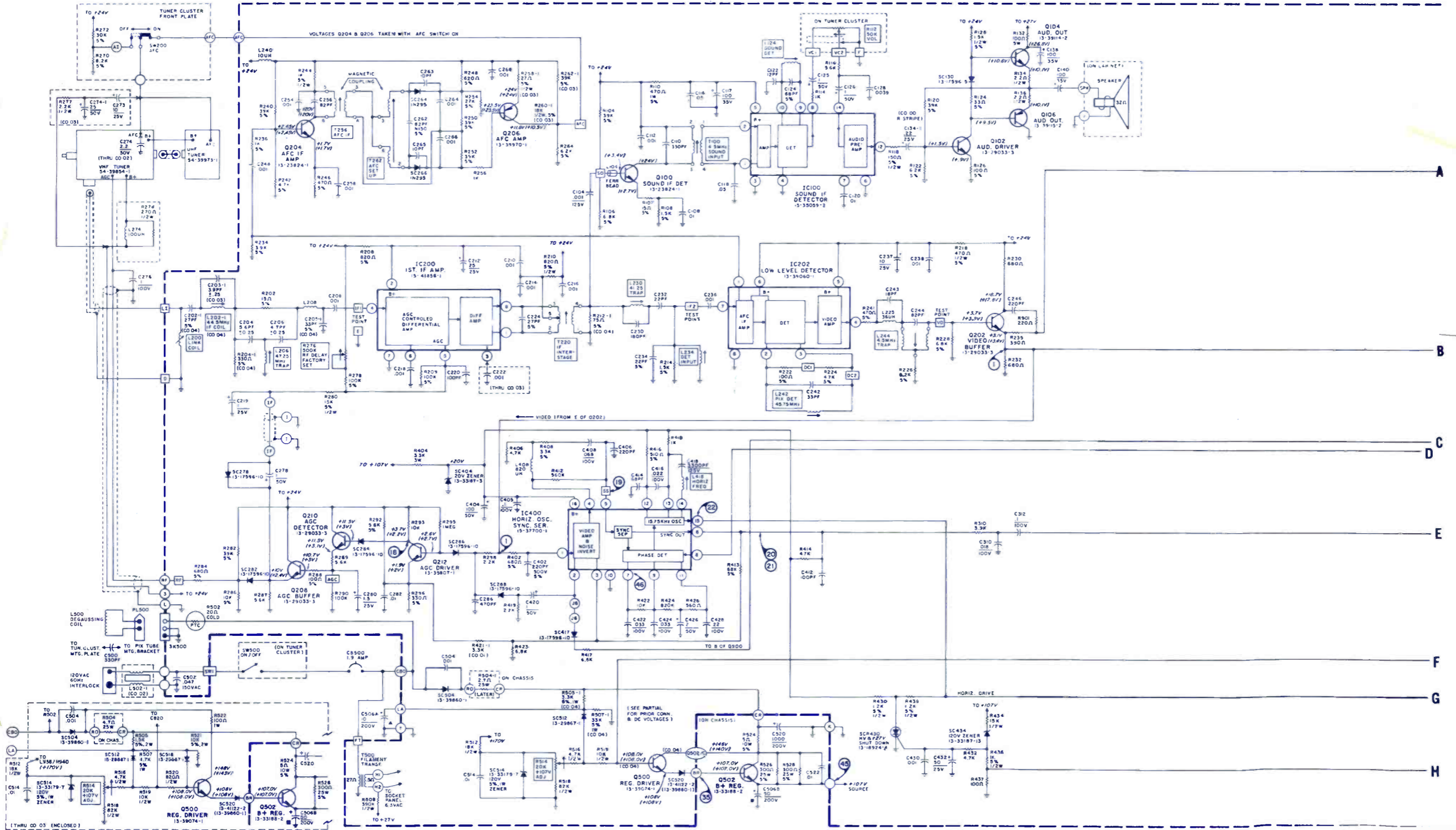
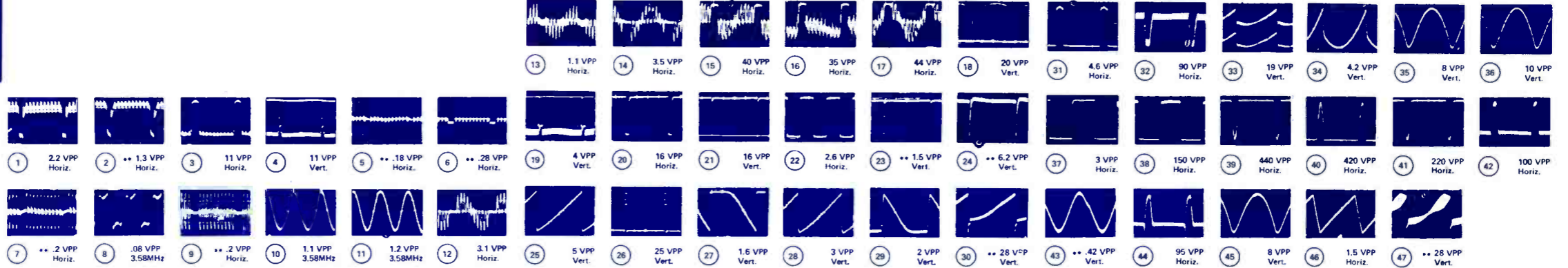
PIN NO.	IC100	IC300	IC400	IC600	IC602	IC604	IC900
1	(+1.8)	+7.8 (+7.8)	+2.8 (+2.4)	+5.1 (+5)	+8.8 (+8.9)	+7.3 (+7.3)	+4.5 (+4.9)
2	(+1.8)	+2 (+2)	+9.6 (+9.6)	+5.4 (+5.4)	+1.5 (+1.5)	+10.6 (+10.7)	3.3 (+1.4)
3	(0)	+4.4 (+4.43)	+1.2 (+1.2)	+2.7 (+2.7)	+16.6 (+16.6)	+10.5 (+10.7)	+1.3 (+1.6)
4	(0)	+2.0 (+1.7)	+12.0 (+14.3)	+6.8 (+1.7)	+1.6 (+1.45)	.25 (.25)	+10 (+10)
5	(+11.9)	+3.2 (+1.2)	-1.9 (+1.2)	+10.1 (+10.1)	0 (0)	0 (0)	+8.4 (+7.4)
6	(+5)	0 (0)	+20.1 (+17.1)	+10.1 (+10.1)	+5.2 (+1.65)	+2.8 (+2.8)	+1.4 (+1.6)
7	(+6.1)	+4.3 (+4.3)	+6.6 (+6.6)	+5.7 (+5.8)	+6.0 (+6.0)	+11.0 (+10.6)	+0.5 (+0.9)

8	(+5.5)	+6.2 (+6.1)	+3 (+3)	+1.5 (+1.5)	+6.0 (+6.0)	+10.8 (+11.3)	+1.5 (+1.15)
9	(+3.9)	+4.2 (+4.2)	+6.6 (+6.6)	+10.1 (+10.1)	+12.7 (+12.8)	+11.5 (+11.5)	+4.7 (+4.7)
10	(+3.9)	+0.6 (+1.3)	0 (0)	+1.1 (+1.1)	+12.7 (+12.8)	+11.5 (+11.5)	+3.4 (+3.8)
11		+2.4 (+1.1)	+10.0 (+10.3)	0 (0)	+13.0 (+12.8)	+8.7 (+8.8)	0 (0)
12	(+5.4)	+8.2 (+8.2)	+2.1 (+2.1)	+6.3 (+6.3)	+19.8 (+20)	+8.7 (+8.8)	+3.4 (+3.8)
13	(+6.3)	+1.4 (+1.1)	+19.6 (+20.5)	+3.1 (+2.4)	+5 (+5)	+6.5 (+6.5)	+6.4 (+7.2)
14	(+1.6)	+4.3 (+1.9)	+3.4 (+3.4)	+8.2 (+8)	+19 (+20)	+6.5 (+6.5)	+2.8 (+2.7)
15		+7.8 (+7.8)	+3.1 (+3)	+9 (+9)	+8.4 (+8.5)	+8.4 (+8.5)	+3.8 (+3.8)
16		+20.5 (+20.5)	+2.4 (+2.2)	+8.5 (+8.2)	+8.4 (+8.0)	+9.0 (+9.0)	

SYMBOL	DESCRIPTION	SYLVANIA PART NO.
C505A,B	two section electro 150/200v, 100/250v	41-39282-1
L110	sound input	50-37714-3
L120	quad	50-33195-2
L260	41.25MHz trap	50-37715-2
L420	horiz hold	50-37711-4
L640	tint center	50-37716-2
L650	band pass	50-37716-2
L670	chroma take-off	60-39217-1
L940	3.58MHz trap	50-37714-3
R112	100K vol -1 CH	37-35924-5
R275	2K, sharp	37-39669-1
R338	1.2M vert height	37-33036-25
R460	focus network	32-37705-1
R630	4.7K color level	37-23063-10
R632	25K color	37-27242-62
R660	100K color kill	37-33036-21
R694	120K, APC adj	37-14576-11
R698	120K, ACC adj	37-14576-11
R714	10K, tint	37-27242-61
R905	10K, brite	37-27242-61
R917	25K, contrast	37-27242-63
T350	side pincushion	50-37712-1
T400	horiz output	50-39287-1
T440	horiz drive	56-39144-1
T500	power tripler, HV	55-39215-3
		32-39704-2



SYLVANIA  
Color TV Chassis  
E12-1, -2

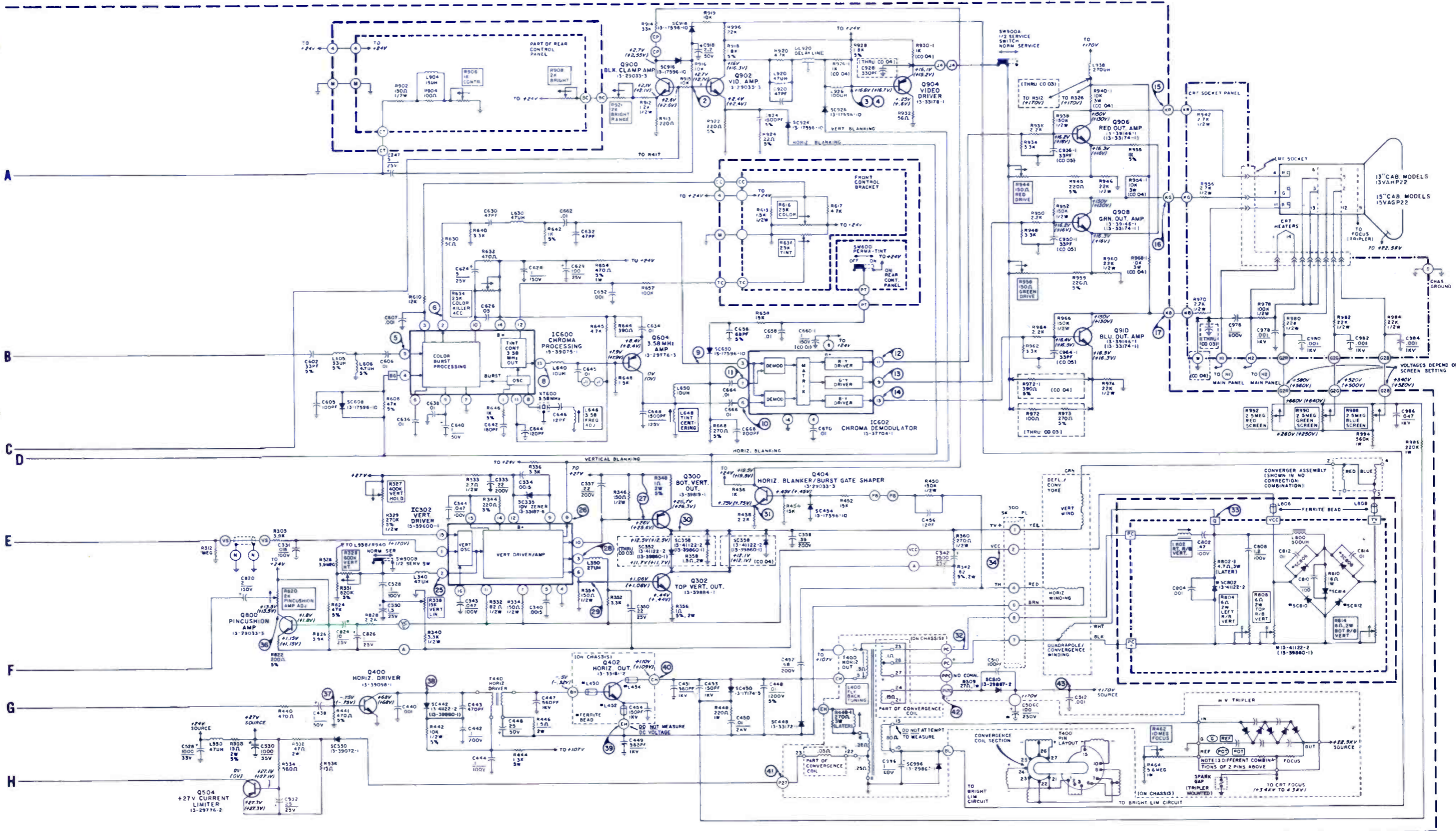


IC VOLTAGE CHART  
(ALL IN VOLTS)

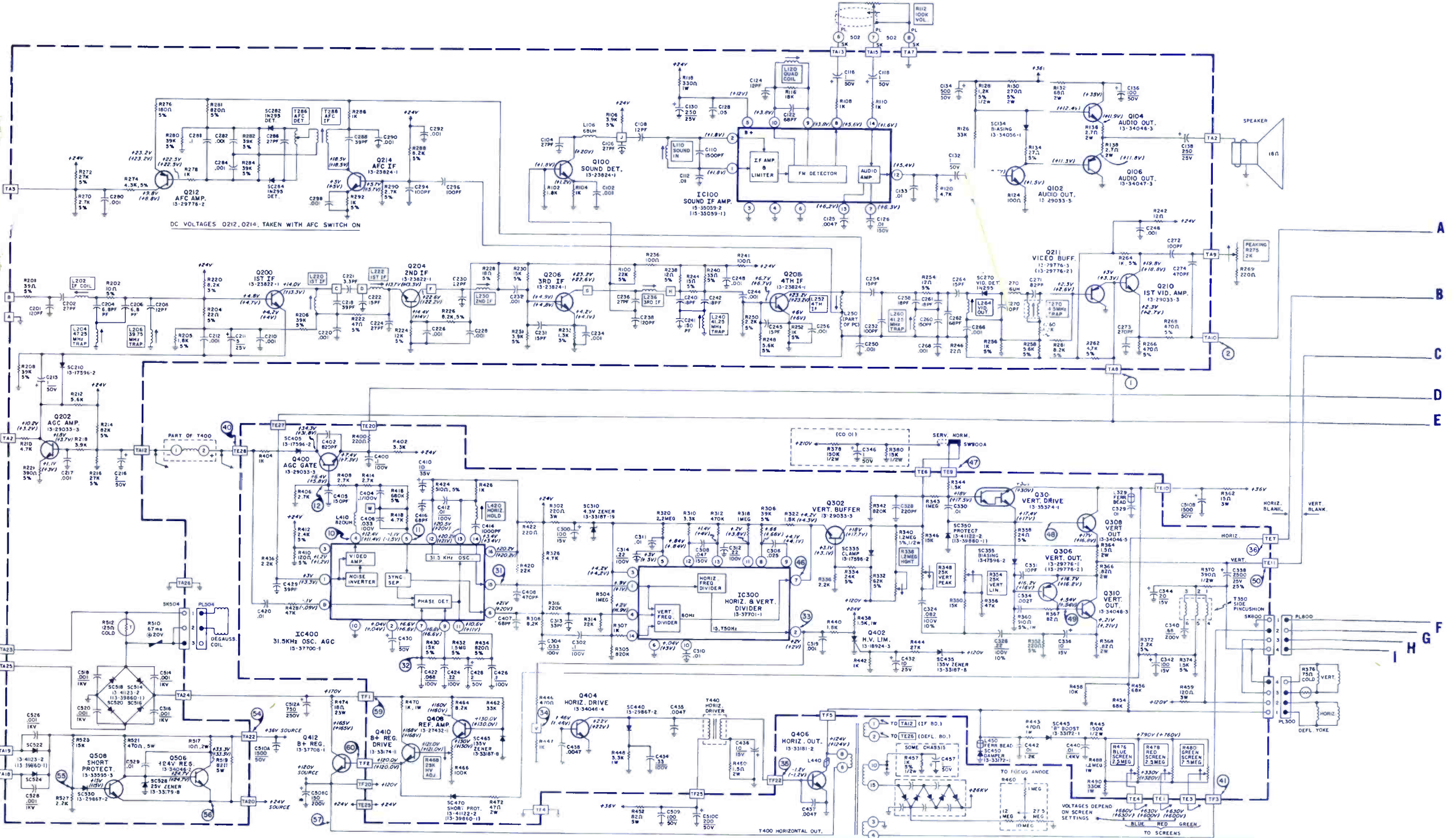
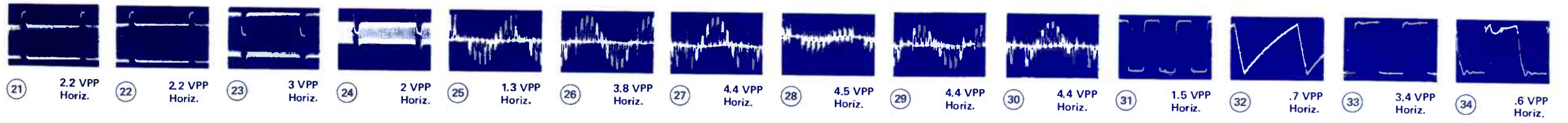
PIN NO.	IC100	IC200	IC202	IC300 (-3 CH.)	IC302 (-3 CH.)	IC400 (-3 CH.)	IC302 (-2 CH.)	IC400 (-2 CH.)	IC600	IC602
1	+1.85 (+1.85)	+16.5 (+16.3)	+6.9 (+6.7)	+1.6 (+1.6)	+1.7 (+1.7)	+3 (+3.3)	+4.3 (+1.7)	+3 (+3.3)	+5.4 (+5.36)	
2	+1.85 (+1.85)	+13 (+12.2)	+8.5 (+8.5)	+4.1 (+4.1)	+2.4 (+2.4)	+0.4 (+0.4)	+2.4 (+2.4)	+0.4 (+0.4)	+7.6 (+8)	
3	0 (0)	+2 (+1.9)	+8.5 (+8.5)	+4.3 (+4.3)	+11.4 (+11.4)	+1.75 (+1.75)	+11.4 (+11.4)	+1.75 (+1.75)	+6.6 (+6.4)	+3.6 (+3.6)
4	0 (0)	+2.7 (+2.6)	+4.1 (+4.4)	+1.45 (+1.4)	0 (0)	+11 (+9.5)	0 (0)	+11 (+9.5)	+5.2 (+5.2)	+3.6 (+3.6)

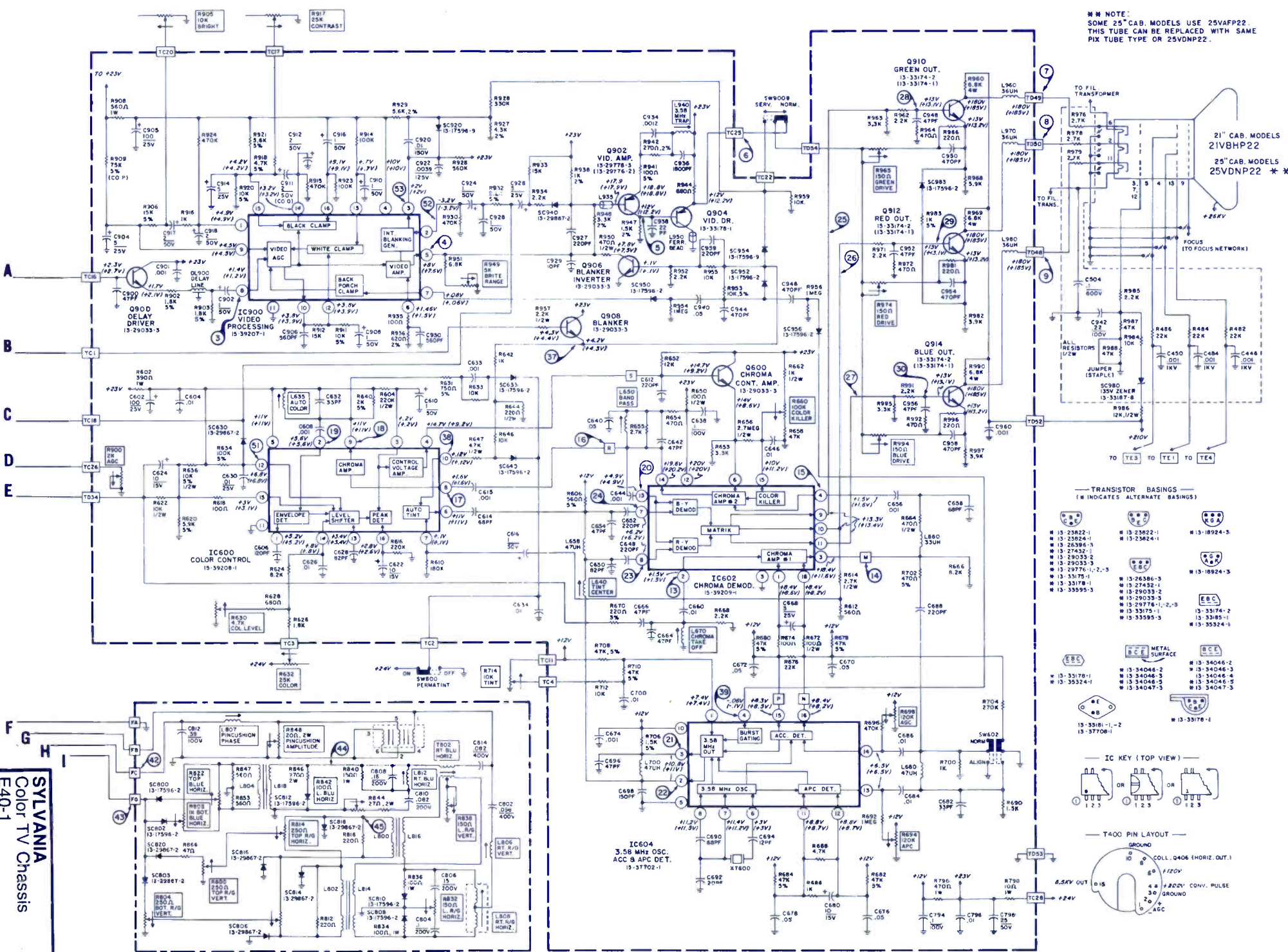
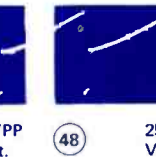
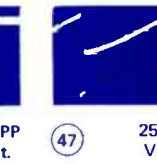
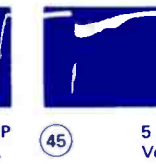
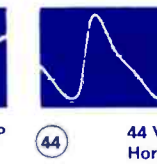
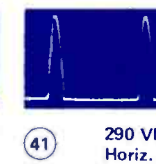
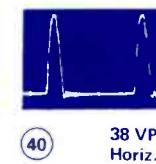
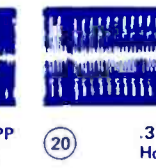
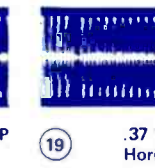
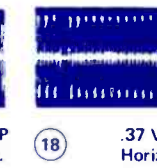
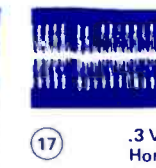
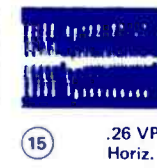
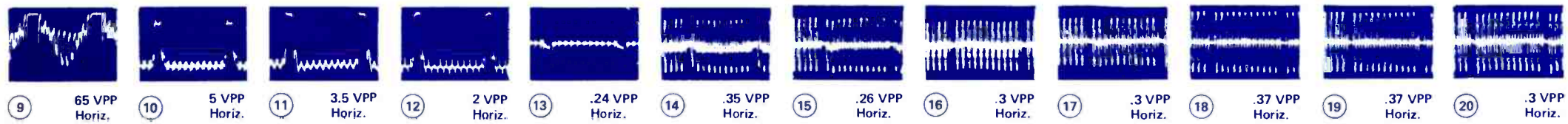
5	+5 (+11.5)	+17.2 (+17.2)	+2.8 (+5)	+2.8 (+2.8)	-2 (-1)	+2.8 (+2.8)	-2 (-1)	+7 (+7)		
6	0 (0)	+2.8 (+2.7)	+17.2 (+17.2)	0 (0)	+1.06 (+1.06)	+15.6 (+15.8)	+1.06 (+1.06)	+15.6 (+15.8)	+2 (+1.8)	+6.4 (+6.4)
7	0 (0)	+4.1 (+4.1)	+2.4 (+2.35)	+10 (+10)	+4.8 (+4.6)	+10 (+10)	+4.8 (+4.6)	0 (0)	+6.4 (+6.4)	
8	+5.3 (+5.3)	+16.6 (+17)	0 (0)	+6.65 (+6.5)	+1.1 (+1.0)	+7.5 (+7.5)	+1.1 (+1.0)	+7.5 (+7.5)	+4.2 (+4.4)	+24 (+24)
9	+3.7 (+3.7)			+4.1 (+4.1)	+24.2 (+24)	+5 (+4.6)	+24.2 (+24)	+5 (+4.6)	+2.8 (+1.8)	+14.4 (+14.2)
10	+3.7 (+3.7)			+0.3 (+2.6)	+26 (+25.6)	0 (0)	+26 (+25.6)	0 (0)	+7.4 (+8.2)	

11				+20 (+3.6)	+13.2 (+13.2)	+10.2 (+10.4)	+13.2 (+13.2)	+10.2 (+10.4)	+8.4 (+8.4)	+14.4 (+14.2)
12	+5.1 (+5.1)			+8 (+8)	+26.9 (+26.8)	+18.6 (+18.6)	+26.9 (+26.8)	+18.6 (+18.6)	+8.4 (+8.4)	
13	+5.8 (+5.8)			+1.4 (+4.2)	+12 (+12)	+18.2 (+18.5)	+12 (+12)	+18.2 (+18.5)	+8 (+8)	+14.5 (+14.3)
14	+1.7 (+1.7)			+3.5 (+1.8)	+12 (+12)	+3.3 (+3.3)	+12 (+12)	+3.3 (+3.3)	+9.4 (+9.4)	0 (0)
15					+0.2 (+0.1)	+1.6 (+1.6)	+19 (+19)	+4.2 (+4.3)		
16					+1.4 (+1.4)	+20 (+20)	+5 (+5)	+20 (+20)		

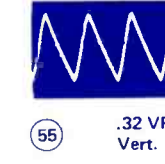
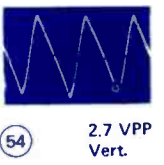
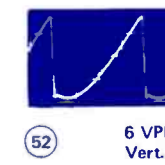








NOTE: SOME 25" CAB. MODELS USE 25VAFP22. THIS TUBE CAN BE REPLACED WITH SAME PIX TUBE TYPE OR 25VDNP22.



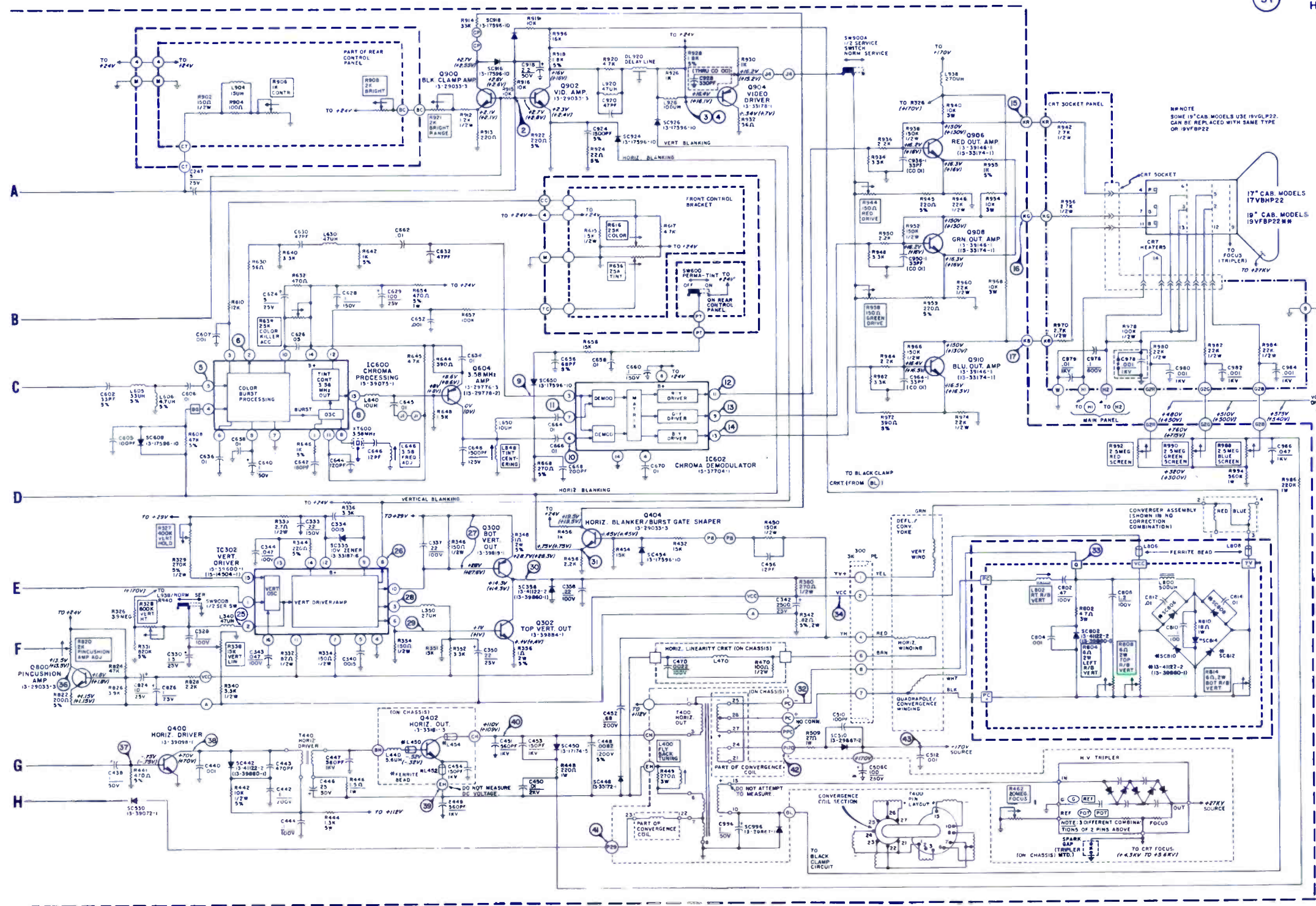
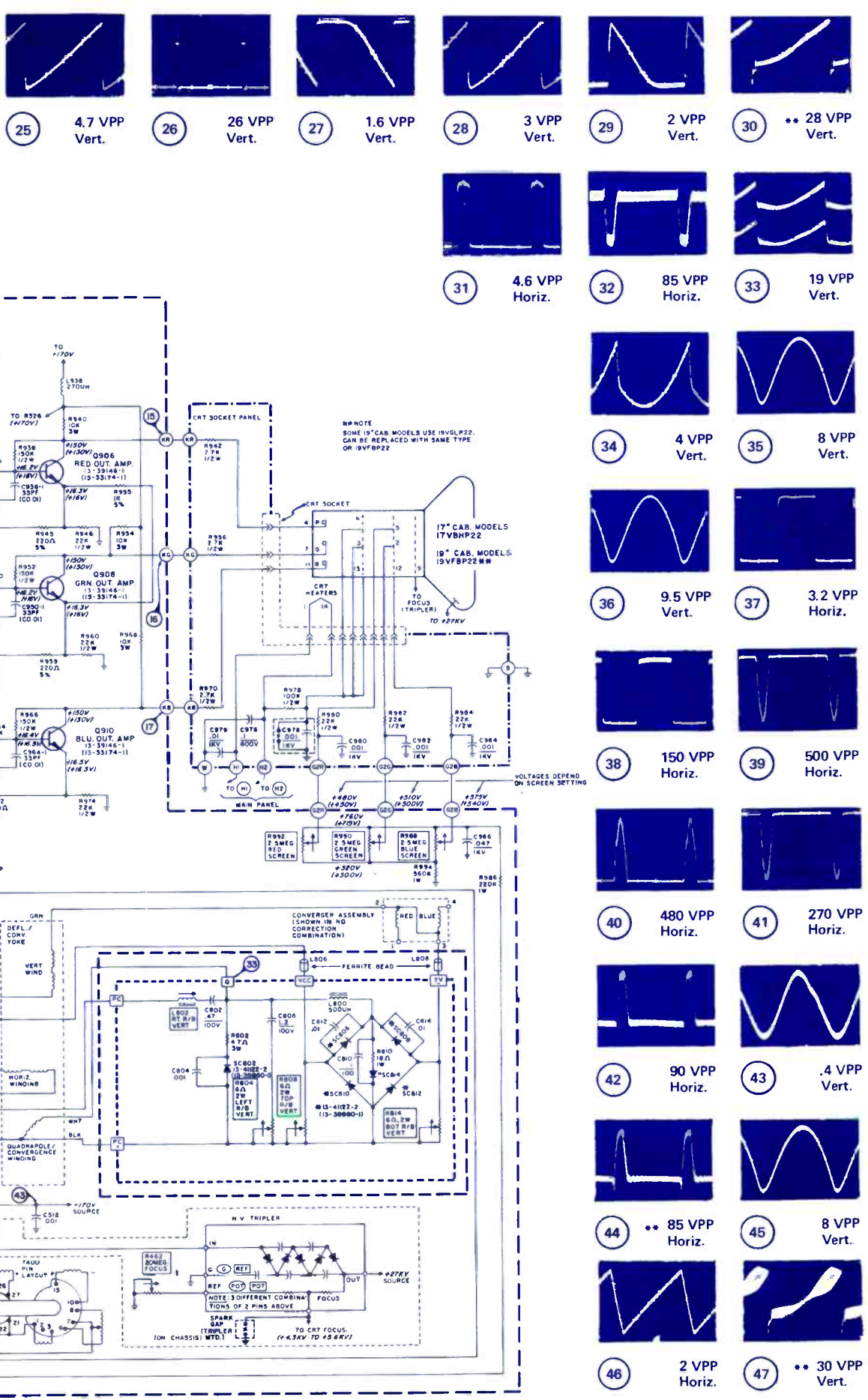
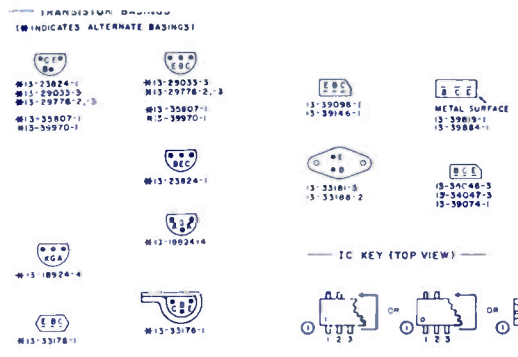
TRANSISTOR BASINGS (W INDICATES ALTERNATE BASINGS)

Q901	13-29033-3	Q902	13-29033-3	Q903	13-29033-3
Q904	13-29033-3	Q905	13-29033-3	Q906	13-29033-3
Q907	13-29033-3	Q908	13-29033-3	Q909	13-29033-3
Q910	13-29033-3	Q911	13-29033-3	Q912	13-29033-3
Q913	13-29033-3	Q914	13-29033-3	Q915	13-29033-3
Q916	13-29033-3	Q917	13-29033-3	Q918	13-29033-3
Q919	13-29033-3	Q920	13-29033-3	Q921	13-29033-3
Q922	13-29033-3	Q923	13-29033-3	Q924	13-29033-3
Q925	13-29033-3	Q926	13-29033-3	Q927	13-29033-3
Q928	13-29033-3	Q929	13-29033-3	Q930	13-29033-3
Q931	13-29033-3	Q932	13-29033-3	Q933	13-29033-3
Q934	13-29033-3	Q935	13-29033-3	Q936	13-29033-3
Q937	13-29033-3	Q938	13-29033-3	Q939	13-29033-3
Q940	13-29033-3	Q941	13-29033-3	Q942	13-29033-3
Q943	13-29033-3	Q944	13-29033-3	Q945	13-29033-3
Q946	13-29033-3	Q947	13-29033-3	Q948	13-29033-3
Q949	13-29033-3	Q950	13-29033-3	Q951	13-29033-3
Q952	13-29033-3	Q953	13-29033-3	Q954	13-29033-3
Q955	13-29033-3	Q956	13-29033-3	Q957	13-29033-3
Q958	13-29033-3	Q959	13-29033-3	Q960	13-29033-3
Q961	13-29033-3	Q962	13-29033-3	Q963	13-29033-3
Q964	13-29033-3	Q965	13-29033-3	Q966	13-29033-3
Q967	13-29033-3	Q968	13-29033-3	Q969	13-29033-3
Q970	13-29033-3	Q971	13-29033-3	Q972	13-29033-3
Q973	13-29033-3	Q974	13-29033-3	Q975	13-29033-3
Q976	13-29033-3	Q977	13-29033-3	Q978	13-29033-3
Q979	13-29033-3	Q980	13-29033-3	Q981	13-29033-3
Q982	13-29033-3	Q983	13-29033-3	Q984	13-29033-3
Q985	13-29033-3	Q986	13-29033-3	Q987	13-29033-3
Q988	13-29033-3	Q989	13-29033-3	Q990	13-29033-3
Q991	13-29033-3	Q992	13-29033-3	Q993	13-29033-3
Q994	13-29033-3	Q995	13-29033-3	Q996	13-29033-3
Q997	13-29033-3	Q998	13-29033-3	Q999	13-29033-3
Q1000	13-29033-3	Q1001	13-29033-3	Q1002	13-29033-3

SYMBOL	DESCRIPTION	SYLVANIA PART NO.
C510	three section electro	41-37580-1
L110	sound input	50-37714-3
L120	quad	50-33195-2
L240	41.25MHz trap	50-37715-2
L420	horiz hold	50-37711-4
L650	band pass	50-37716-2
L670	chroma take-off	50-39217-1
R112	100K, vol	37-35105-15
R338	1.2M, vert peak	37-33036-25
R348	25K, vert peak	37-23063-2
R354	25K, vert lin	part of R338
R460	focus network	32-37705-1
R468	25K, HV adj	part of R338
R630	5K, color level	37-23063-2
R660	100K, color kill	37-33036-21
R714	10K, tint	37-27242-45
R905	10K, brite	37-27242-45
R917	25K, contrast	37-27242-54
R949	5K, brite range	part of R660
IC100	sound IF amp	15-35059-2
IC300	horiz & vert divider	15-37701-1
IC400	31.5K Hz osc. AGC	15-37700-1
IC600	color control	15-39208-1
IC602	chroma amp, demod	15-39209-1
IC604	3.58MHz osc. ACC. APC	15-37702-1
IC900	video processing	15-39207-1
T270	4.5MHz trap	50-35309-1
T400	horiz output	50-41122-2
T440	horiz driver	56-39144-1
T500	power	55-37722-3
T800	pin cushion	50-33900-3
T802	rt blue horiz	50-35498-2
CB500	circuit break tripler, HV	29-39696-13
		32-35894-7

SYLVANIA Color TV Chassis E40-1





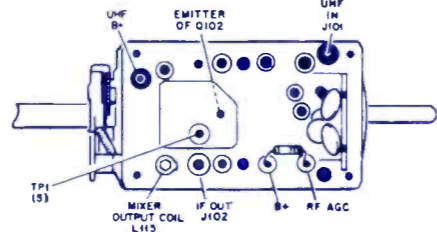
**SYLVANIA**  
Color TV Chassis  
E 21-1

# TRAV-LER

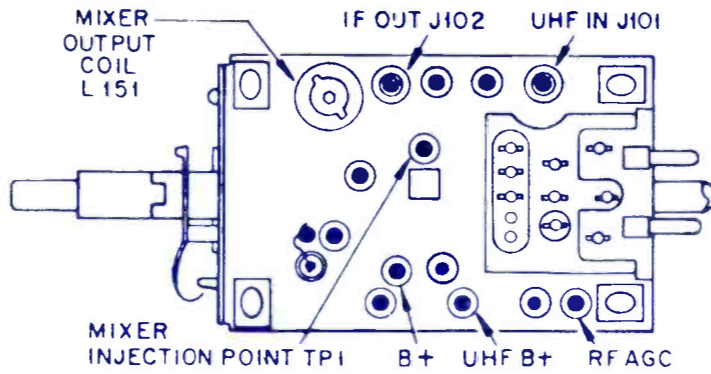
TV Chassis  
TL6/TIL6

SYMBOL DESCRIPTION TRAV-LER PART NO.

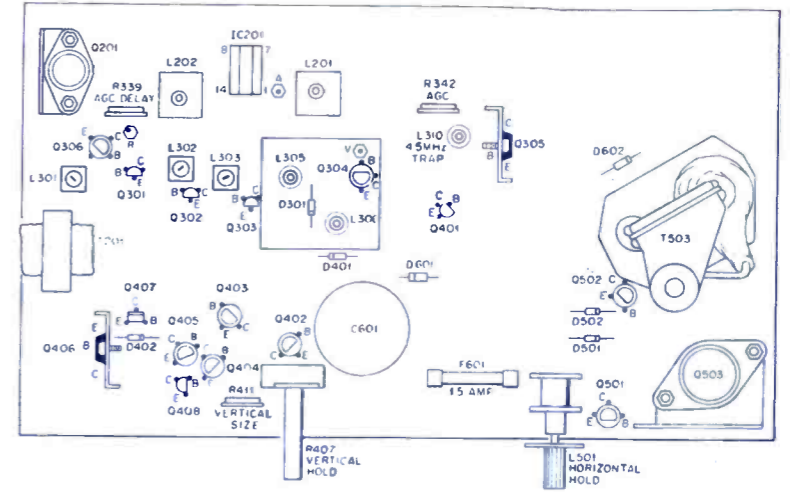
C603 - 250/200/150 $\mu$ f, 165v electro	67A30-11
L201 - coil 4.5MHz	72A317-1
L302 - coil 1st video 1F	72A415-1
L303 - coil 2nd video 1F	72A415-1
L310 - coil 4.5MHz trap	72A317-9
L501 - coil horiz lock	94A480-1
T201 - xformer audio output	79A172-1
T401 - yoke deflect TL6-1A-2A	94A372-3
T401 - yoke deflect TL6-1A-2A	94A372-4
T502 - xformer horiz output	79A166-3
R203 - 25K volume control	75A1-210
R326 - 500 $\Omega$ , contrast control	75A1-211
R333 - 100K, brite control	75A1-212
R339 - 400 $\Omega$ , AGC delay	75A101-35
R342 - 400 $\Omega$ , AGC control	75A101-35
R411 - 2M, vert size	75A101-61
R407 - 1.2M vert hold	75A191-3
	fuse, 1.5a
	84A7-5



Top View of VHF Tuner (94A434-2) Showing Test Point and Alignment Locations

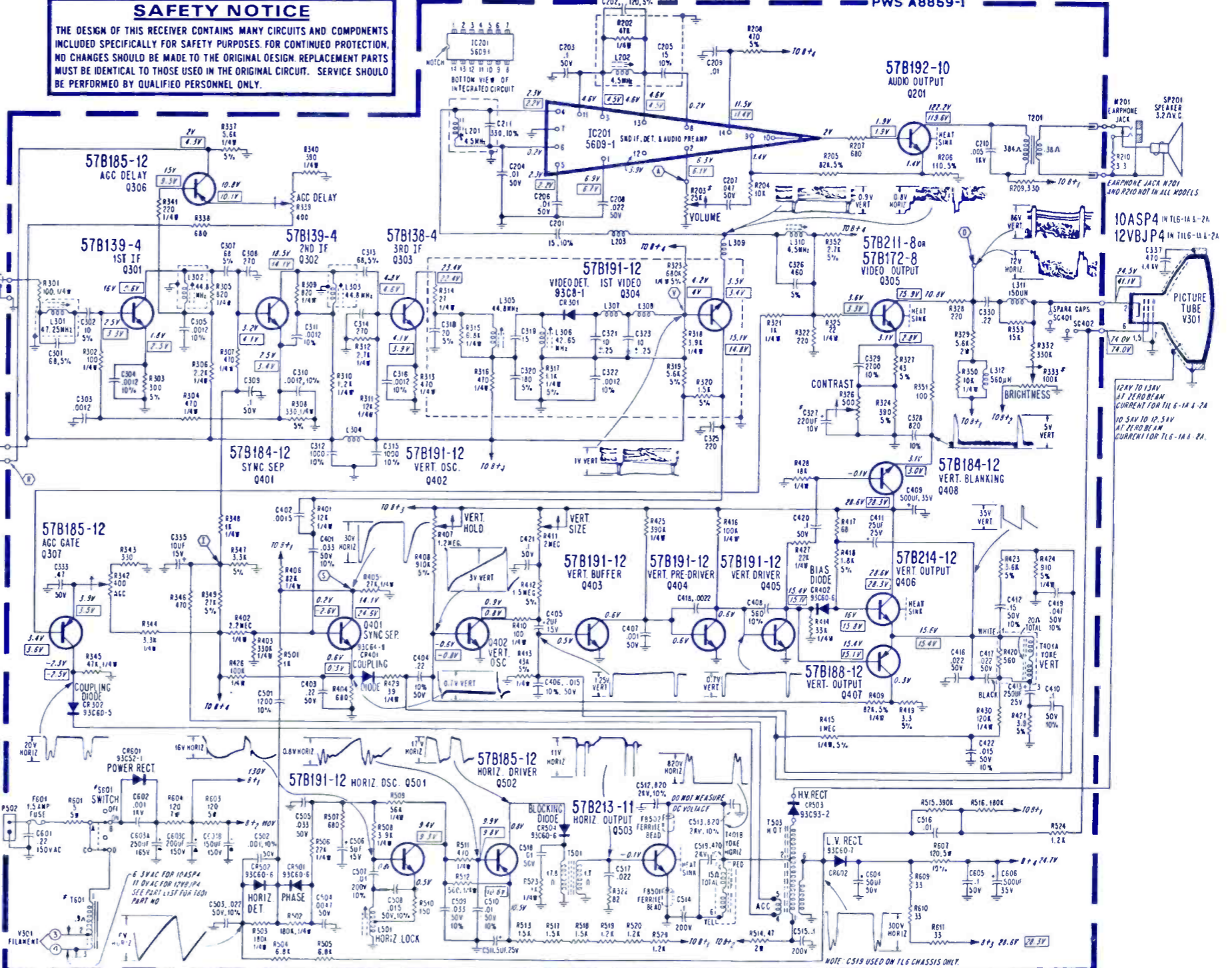
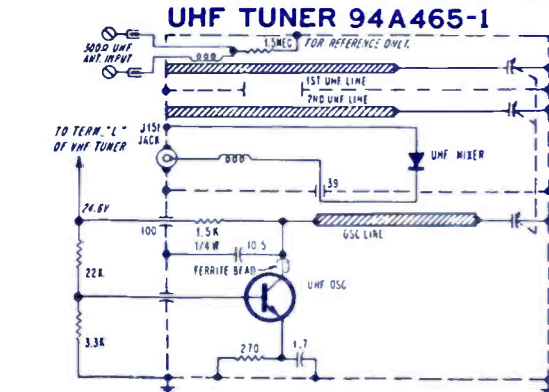
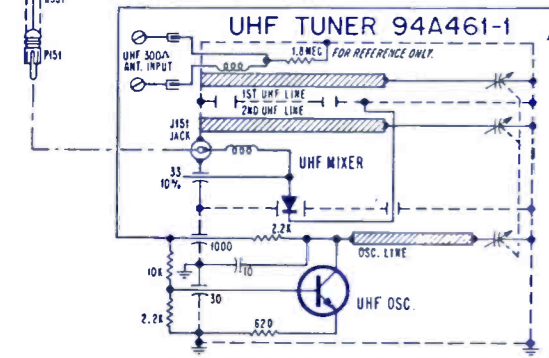
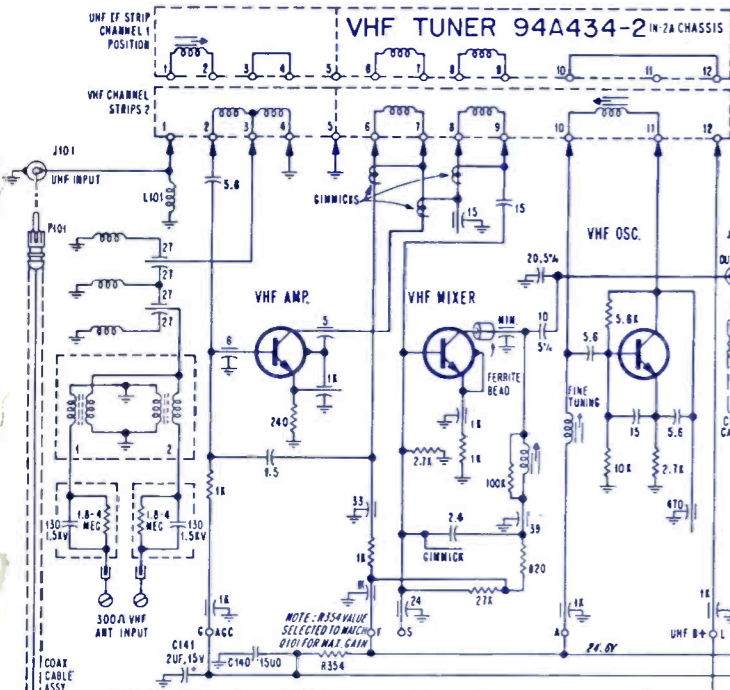


Top View of VHF Tuner (94A433-2) Showing Test Point and Alignment Locations

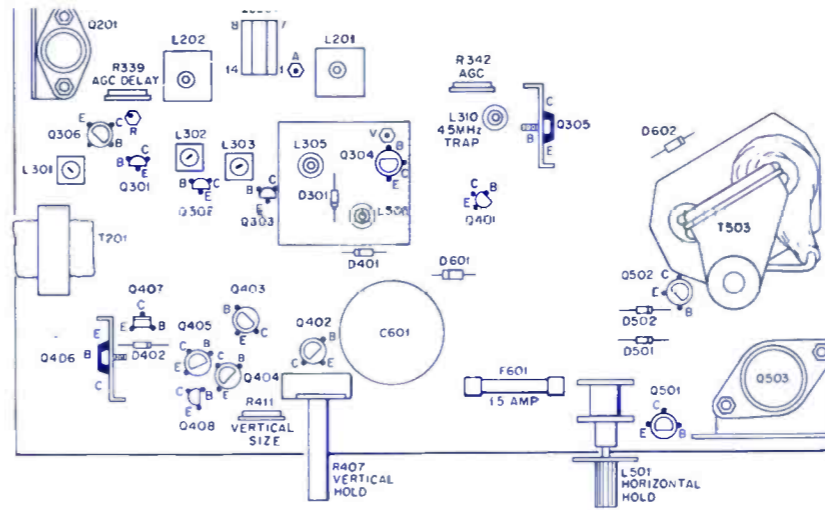


## SAFETY NOTICE

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.

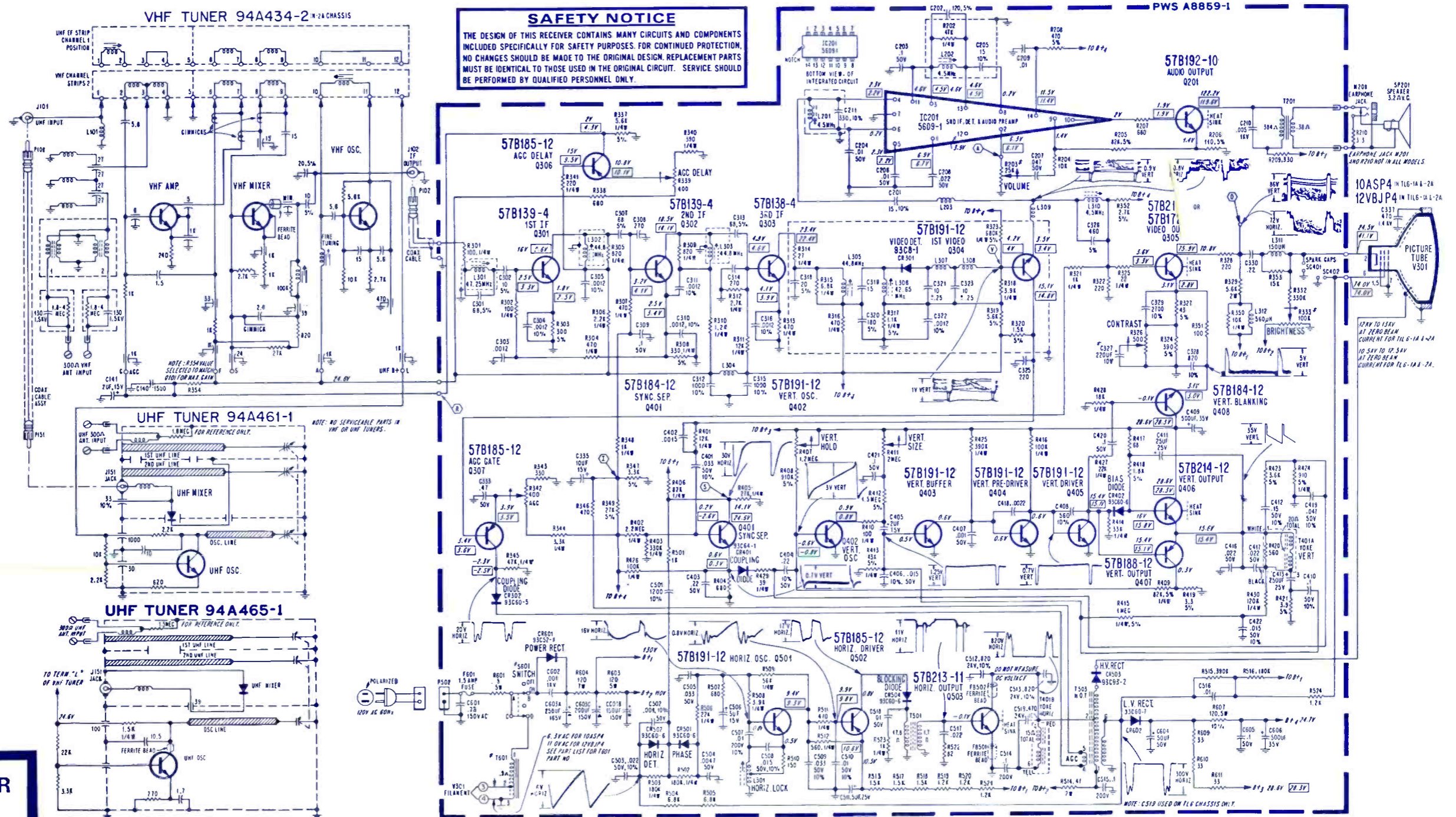


NOTE: C519 USED ON TL6 CHASSIS ONLY.



SYMBOL	DESCRIPTION	TRAV-LER PART NO.
C603	250/200/150µf, 165v electro	67A30-11
L201	coil, 4.5MHz	72A317-1
L310	coil, 4.5MHz trap	72A317-9
L501	coil, horiz lock	94A480-1
T201	x-former audio output	79A172-1
T401	yoke deflect, TL6-1A-2A	94A372-3
T401	yoke deflect T1L6-1A-2A	94A372-4
T501	x-former horiz drive	72A417-1
T503	x-former horiz output	79A166-3
R203	25K vol control	75A1-210
R326	500n, contrast control	75A1-211
R333	100K brite control	75A1-212
R339	400n, AGC delay	75A101-35
R342	400n, AGC control	75A101-35
R411	2M vert size	75A101-61
R407	1.2M vert hold	75A191-3
	fuse 1.5a	84A7-5

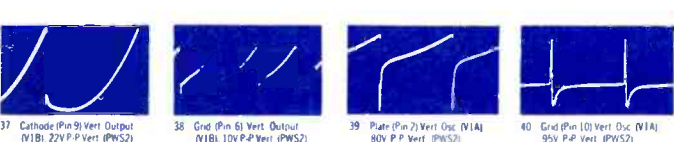
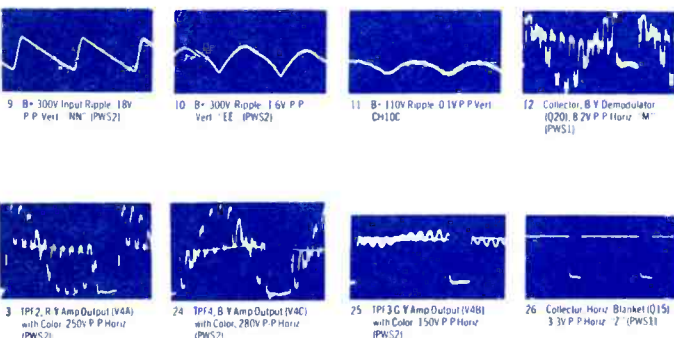
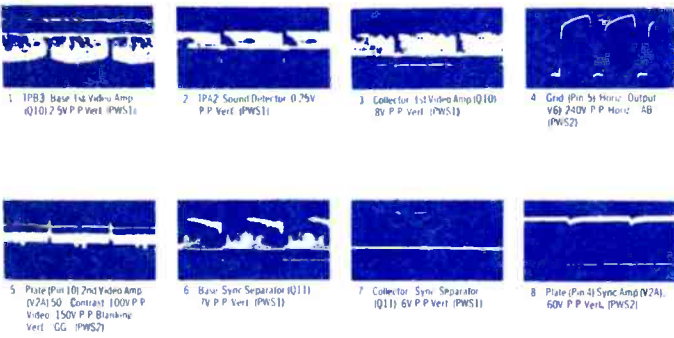
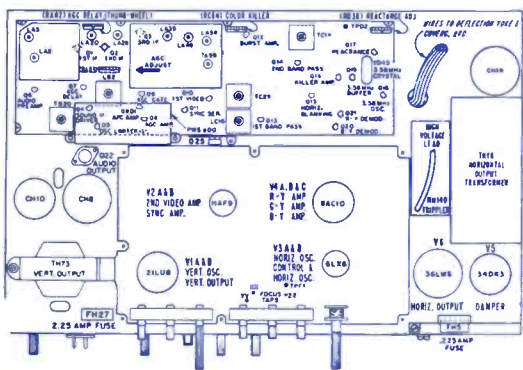
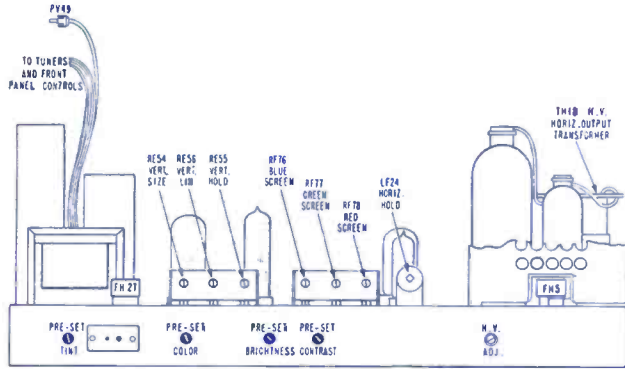
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**TRAV-LER**  
 TV Chassis  
 TL6-T1L6

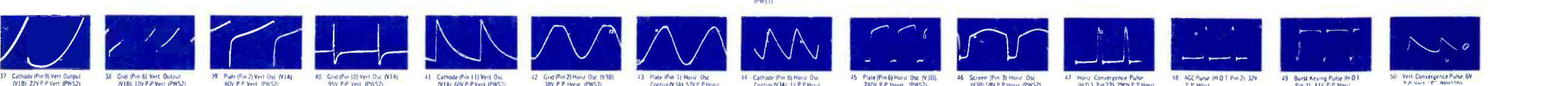
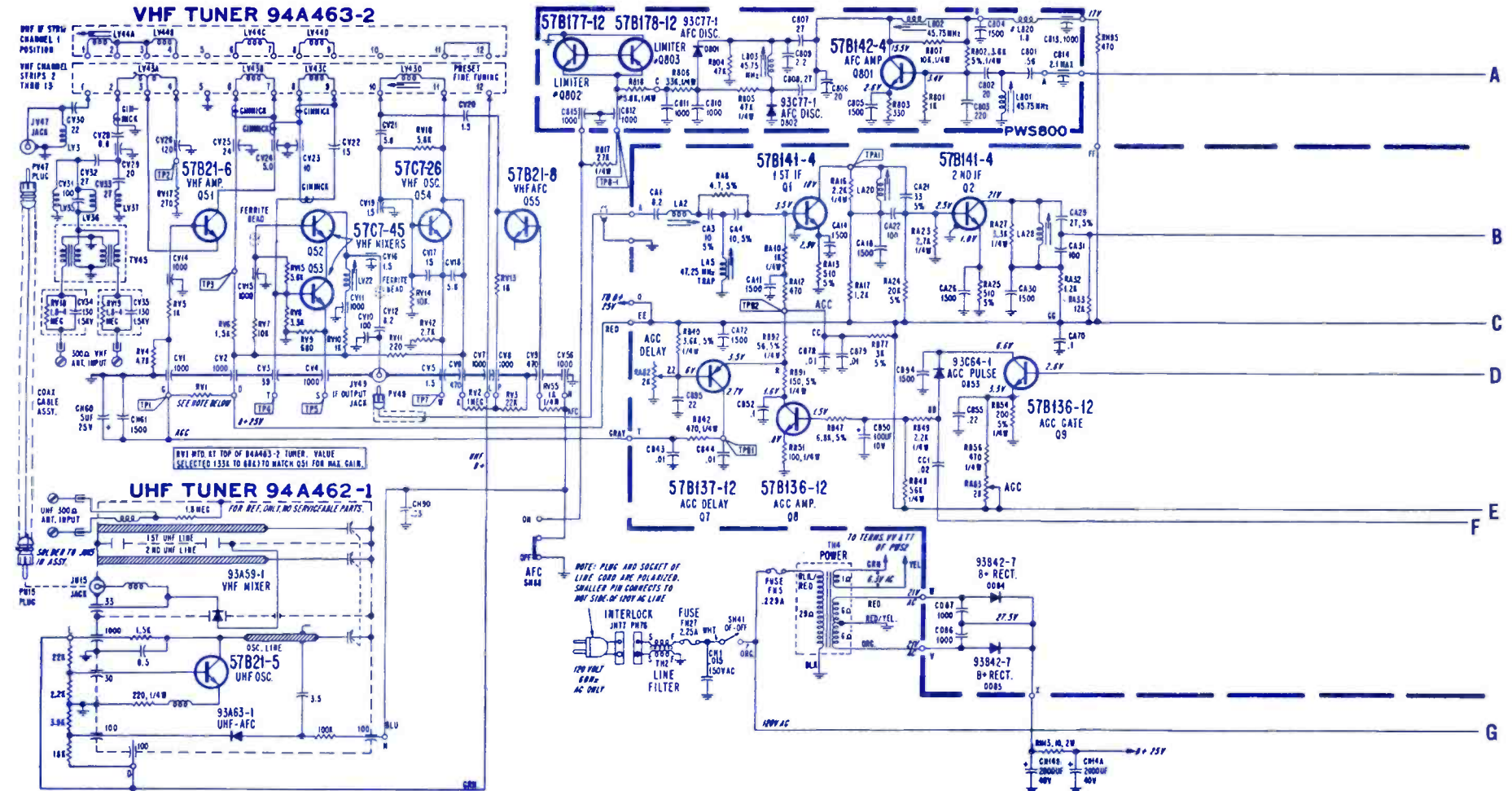
# TRAV-LER

Color TV Chassis  
T41K10-4A/B



SYMBOL	DESCRIPTION	TRAV-LER PART NO.
RA82	—2K AGC delay	75A101-31
RA83	—2K AGC	75A101-31
RC64	—10K color kill	75A101-18
RD38	—400 ohm react adj.	75A101-35
RE54	—3.4M vert size	75A95-18
RE55	—100K vert hold	75A95-18
RE56	—300K vert lin.	75A95-18
RH28	—2K brite	75A140-25
RH29	—350 ohm contrast	75A140-26
RH34	—500 ohm tint	75A140-17
RH39	—1K color	75A140-18
RH42	—50K vol/SH41 on/off switch	75A140-19
RH103	—1K preset color	75A135-52
RH104	—500 ohm preset tint	75A135-51
RH117	—350 ohm preset contrast	75A135-54
RH118	—2K preset brite	75A135-53

RH125	—5M high voltage adj	75A135-57
LB2	—coil 4.5MHz	72A317-1
LC16	—coil chroma takeoff	72A329-1
LF24	—coil horiz adj	94A351-1
MH57	—deflect yoke T13P857	94A379-8
	deflect yoke T17P877	94A379-9
TB20	—xformer ratio detect	72A318-1
TC14	—xformer burst	72A325-3
TC29	—xformer bandpass	72A327-1
TH2	—xformer line choke	73A31-16
TH4	—xformer power	80A108-13
TH18	—xformer horiz output	79A169-1
TH44	—xformer audio output	79A141-1
TH73	—xformer vert output	79A165-1
FH5	—fuse .225a chemical	84A28-12
FH27	—fuse 2.25a chemical	84A28-16
	tuner UHF	94A462-1
	tuner VHF	94A463-2



# MODEL CHART

MODEL	COLOR	VHF	UHF	CHASSIS
T13P857	Walnut	94A463-2 or 94A392-1	94A462-1 or 94A466-1	T41K10-4B
T17P877	Walnut	94A463-2 or 94A392-1	94A462-1 or 94A466-1	T41K10-4A

NOTES: UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS, 10K, 100K, 1M, 10M, 100M; CAPACITANCE VALUES 1 OR HIGHER ARE IN PF; CAPACITANCE VALUES LESS THAN 1 ARE IN UF; INDUCTANCE VALUES ARE IN MH. — INDICATES CHASSIS GROUND, # INDICATES CIRCLES PER SECOND.  
 DC VOLTAGE AND RESISTANCE WITH VTR PLACED BETWEEN POINTS INDICATED A CHASSIS GROUND, LINE VOLTAGE SET AT 120V AC ALL CONTROLS SET FOR NORMAL PICTURE UNLESS OTHERWISE INDICATED. VOLTAGE READINGS ARE TAKEN WITHOUT SIGNAL, WITH VTR TURNED SET AT USED CHANNEL. VOLTAGES SHOWN IN BRACKETS [ ] ARE MEASURED WITH RECEIVER TUNED TO A COLOR SIGNAL.

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

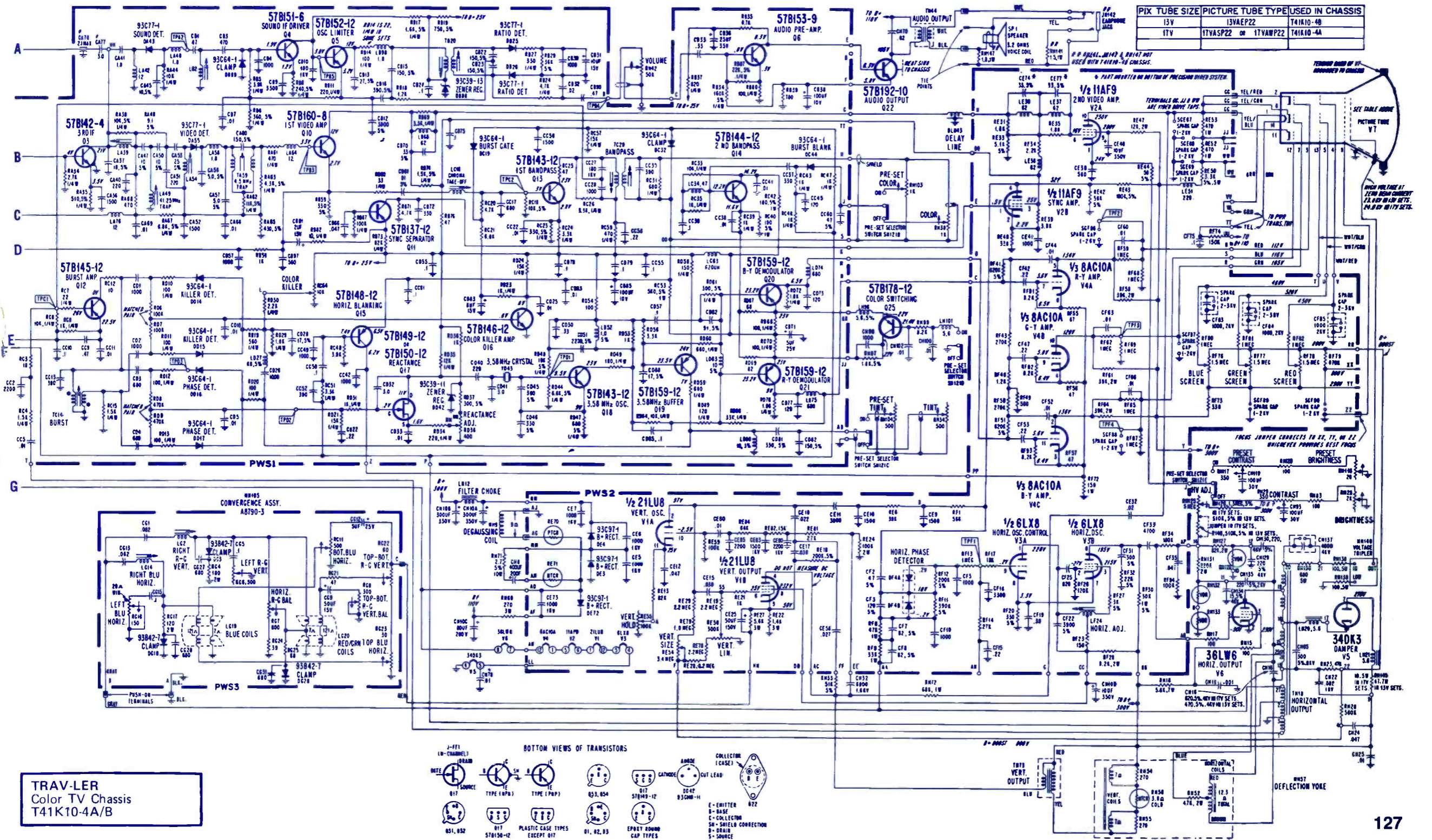
TRANSFORMER CAUTION: TO AVOID DAMAGE TO TRANSISTORS, DO NOT OPERATE CHASSIS WITH PICTURE TUBE BAG DISCONNECTED FROM CHASSIS GROUND. DO NOT TURN SET ON WITH TRANSISTOR (S), TUBES (S) OR LEADS REMOVED OR UNSOLDERED. DO NOT ARC 200 AMPERE LEAD TO CHASSIS GROUND. DISCHARGE PICTURE TUBE BAG OR BAG GROUND. USE CAUTION TO PREVENT ACCIDENTAL SHORT BETWEEN COMPONENT TERMINALS ON TO CHASSIS GROUND. DO NOT APPLY EXCESSIVE HEAT TO TRANSISTOR LEADS. DO NOT USE AN INDIANANT QUANTIFIER FOR RESISTANCE MEASUREMENT. USE VTR ON 0-100 RANGE OR HIGHER.

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

Ⓢ SYMBOLS IN RECTANGLES INDICATE TEST POINT CONNECTIONS.

Ⓢ SYMBOLS IDENTIFY BATTERY OPERATIONAL LOCATIONS. CONDITIONS FOR TAKING BATTERY MEASUREMENTS ARE GIVEN WITH BATTERY PHOTOGRAPHS.

PIX TUBE SIZE	PICTURE TUBE TYPE USED IN CHASSIS
13V	13VAEP22
17V	17VASP22 or 17VANP22
	T41K10-4B
	T41K10-4A

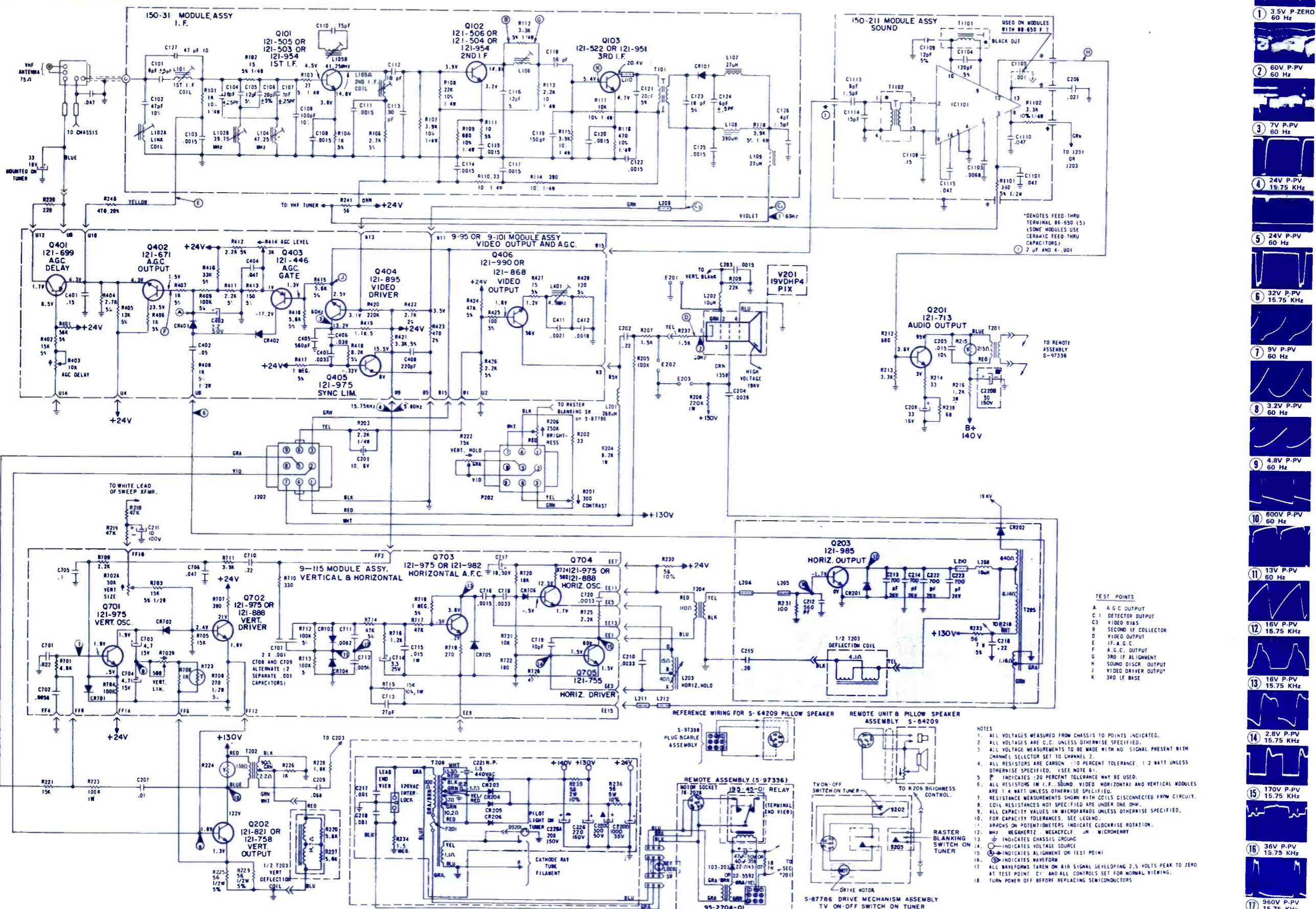


TRAV-LER  
 Color TV Chassis  
 T41K10-4A/B



SYMBOL	DESCRIPTION	ZENITH PART NO.
C220A	—200mfd electro capacitor 150v	
C220B	—50mfd electro capacitor 150v	22-7314
C220C	—300mfd electro capacitor 50v	
C220D	—1000mfd electro capacitor 35v	
R215	—varistor	63-5440
R224	—varistor	63-10281
R414	—3K AGC level control	63-10148

R702A	—50K rotary dual rotary control	63-10225-01
R702B	—500 ohm rotary	63-10225-01
R723	—thermistor	63-10290
T201	—audio output xformer	95-3120
T204	—horiz driver xformer	95-2895-03
T205	—sweep xformer	S-97079
T208	—power xformer	95-3141-01
T1102	—quad xformer	95-2620
F201	—fuse .6a bel fuse	136-100



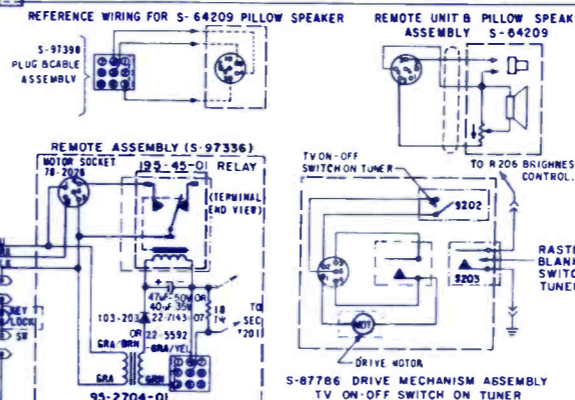
- 1 3.5V P-ZERO 60 Hz
- 2 60V P-PV 60 Hz
- 3 7V P-PV 60 Hz
- 4 24V P-PV 15.75 KHz
- 5 24V P-PV 60 Hz
- 6 32V P-PV 15.75 KHz
- 7 9V P-PV 60 Hz
- 8 3.2V P-PV 60 Hz
- 9 4.8V P-PV 60 Hz
- 10 600V P-PV 60 Hz
- 11 13V P-PV 60 Hz
- 12 16V P-PV 15.75 KHz
- 13 16V P-PV 15.75 KHz
- 14 2.8V P-PV 15.75 KHz
- 15 170V P-PV 15.75 KHz
- 16 36V P-PV 15.75 KHz
- 17 960V P-PV 15.75 KHz

**TEST POINTS**

- A A.G.C. OUTPUT
- C1 DETECTOR OUTPUT
- C3 VIDEO BIASES
- B SECOND I.F. COLLECTOR
- D VIDEO OUTPUT
- E I.F. A.G.C.
- F A.G.C. OUTPUT
- G 3RD I.F. ALIGNMENT
- M SOUND DISCR. OUTPUT
- J VIDEO DRIVER OUTPUT
- K 3RD I.F. BASE

**NOTES**

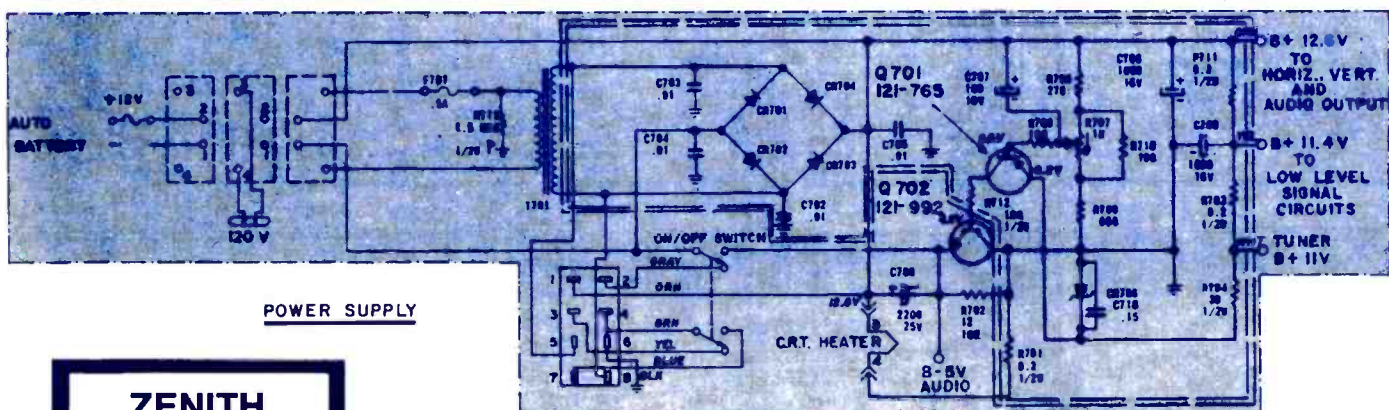
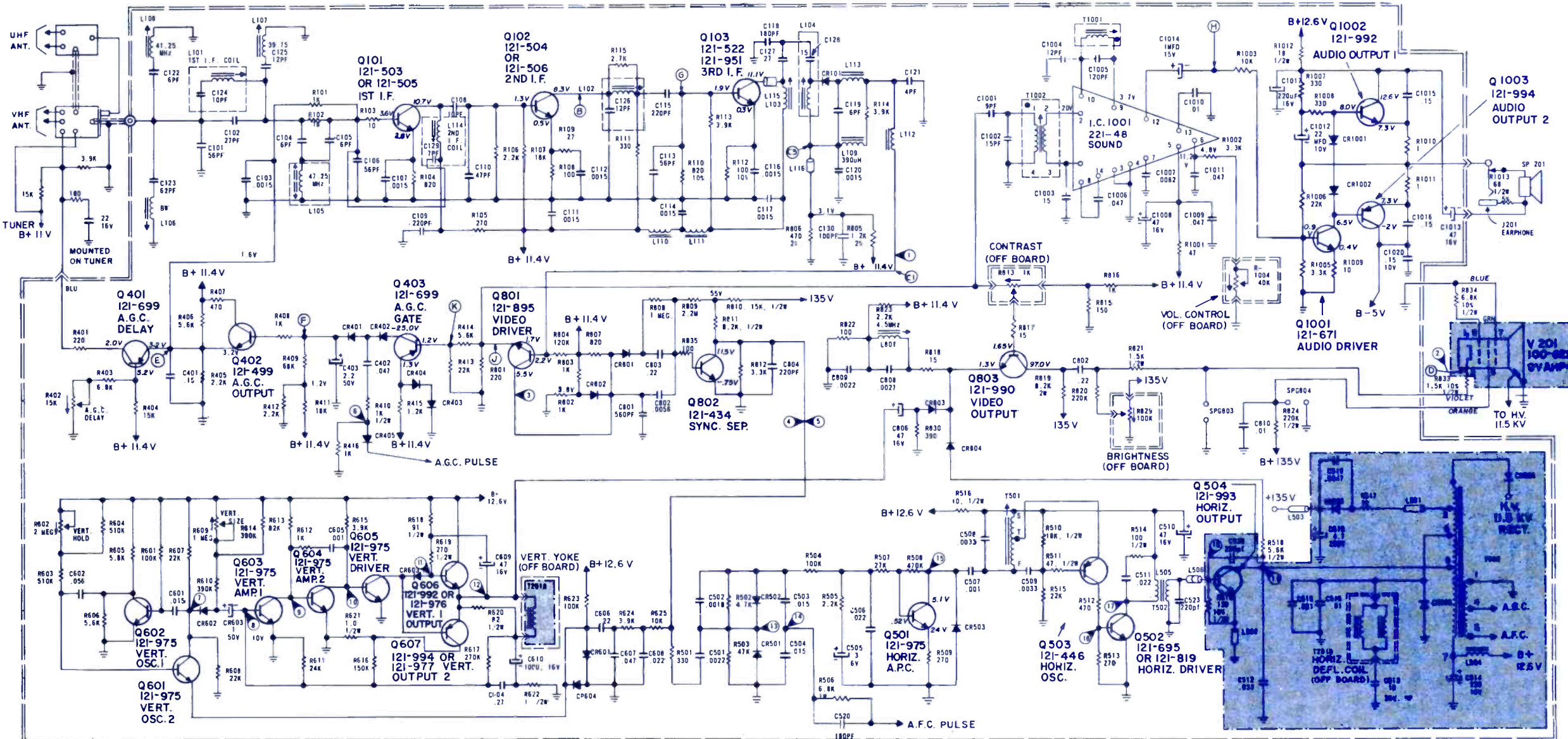
- ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.
- ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
- ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT WITH CHANNEL SELECTOR SET TO CHANNEL 2.
- ALL RESISTORS ARE CARBON ±10 PERCENT TOLERANCE, 1/2 WATT UNLESS OTHERWISE SPECIFIED. (SEE NOTE #1.)
- P INDICATES ±20 PERCENT TOLERANCE MAY BE USED.
- ALL RESISTORS IN I.F., SOUND, VIDEO HORIZONTAL AND VERTICAL MODULES ARE 1/4 WATT UNLESS OTHERWISE SPECIFIED.
- RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.
- COIL RESISTANCES NOT SPECIFIED ARE UNDER ONE OHM.
- ALL CAPACITY VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
- FOR CAPACITY TOLERANCES, SEE LEGEND.
- ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.
- 12 MHz MEGAHERTZ MECACTCLE IN MICROMHENT
- ⊕ INDICATES CHASSIS GROUND
- ⊖ INDICATES VOLTAGE SOURCE
- ⊙ INDICATES ALIGNMENT OR TEST POINT
- ⊚ INDICATES WAVEFORM
- ALL WAVEFORMS TAKEN ON AIR SIGNAL DEVELOPING 2.5 VOLTS PEAK TO ZERO AT TEST POINT C1 AND ALL CONTROLS SET FOR NORMAL VIEWING.
- TURN POWER OFF BEFORE REPLACING SEMICONDUCTORS



**IMPORTANT SAFETY NOTICE**

WHEN SERVICING THIS CHASSIS, UNDER NO CIRCUMSTANCES SHOULD THE ORIGINAL DESIGN BE ALTERED WITHOUT PERMISSION FROM THE ZENITH RADIO CORPORATION. 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-RAY SAFETY. SPECIAL COMPONENTS ALSO ARE USED TO PREVENT SHOCK AND FIRE HAZARD. THESE CRITICAL COMPONENTS ARE SHADED IN THIS DIAGRAM AND PARTS LIST FOR EASY IDENTIFICATION. IT IS IMPERATIVE THAT THE PROPER TYPE FUSE BE USED SO AS NOT TO CREATE A SAFETY HAZARD IN THE FUTURE DUE TO THE USE OF AN IMPROPER FUSE. PROPER FUSE VALUES AND PART NUMBERS ARE LISTED IN THE SERVICE MANUAL.

SYMBOL	DESCRIPTION	ZENITH PART NO.	R1004 — 40K vol control	63-10504
R402	15K AGC delay control	63-10501	T201A — yoke vert	95-3135
R602	2M vert hold	63-10505	T2018 — horiz deflect coil	95-3136
R609	1M vert size	63-9227	T502 — horiz driver xformer	S-97473
R707	1K control rotary single resistor	63-9959	T503 — sweep xformer assm	95-2789
R813	1K contrast control	63-10603-01	T1001 — quad xformer	95-2620
R829	brite control	63-10502	T1002 — 4.5MHz input coil	136-84
			F701 — bel fuse .5a 250v	



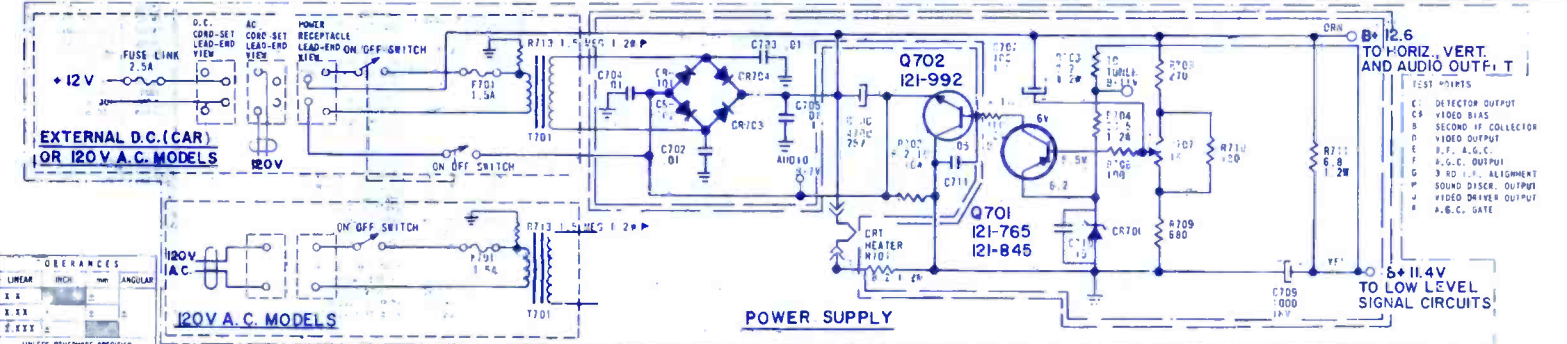
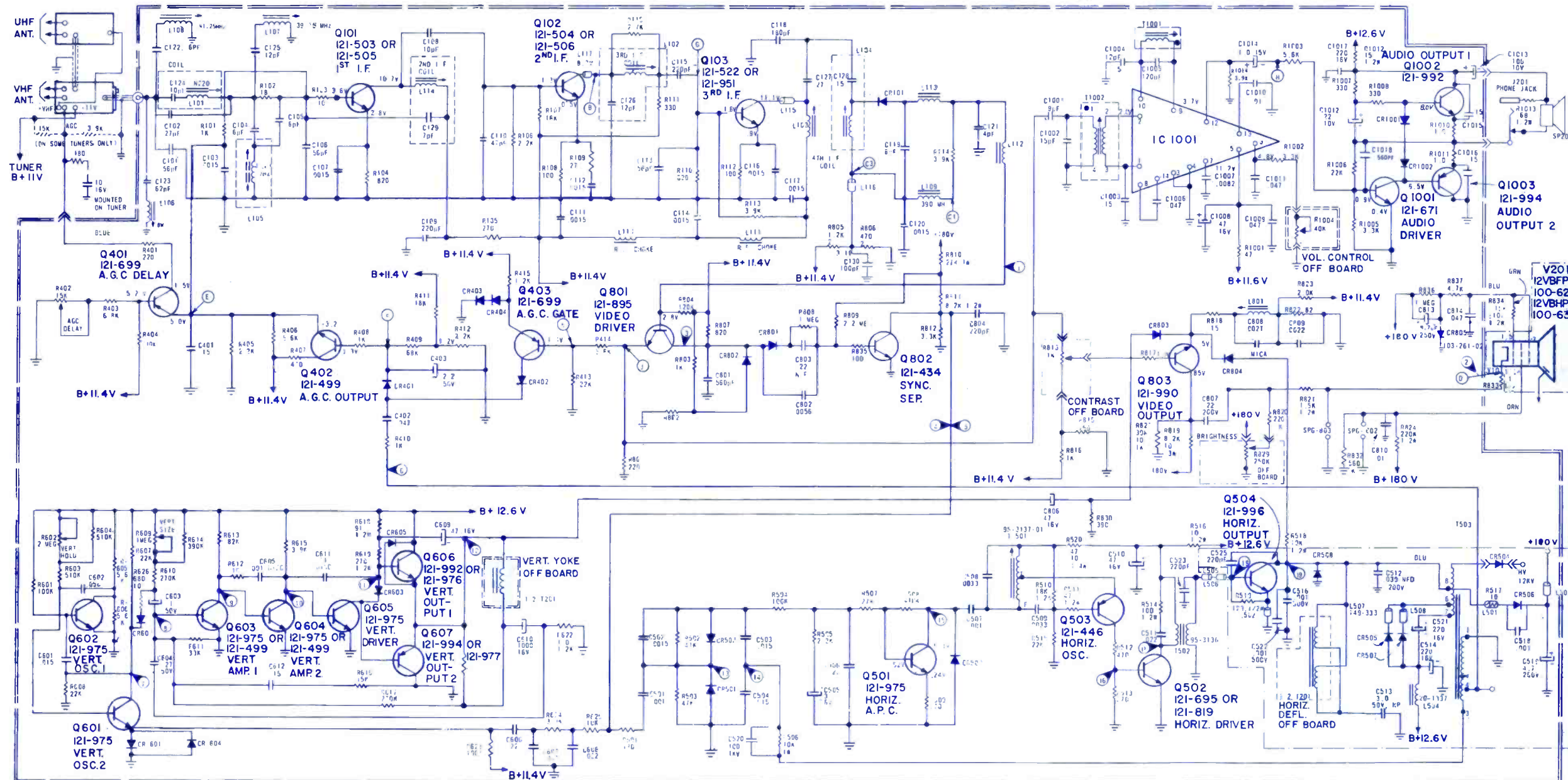
**POWER SUPPLY**

- TEST POINTS**
- C1 DETECTOR OUTPUT
  - C3 VIDEO BIAS
  - B SECOND IF COLLECTOR
  - D VIDEO OUTPUT
  - E I.F. A.G.C.
  - F A.G.C. OUTPUT
  - G 3RD I.F. ALIGNMENT
  - H SOUND DISCR. OUTPUT
  - I VIDEO DRIVER OUTPUT
  - J A.G.C. GATE

- NOTES:**
1. ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.
  2. ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
  3. ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT WITH CHANNEL SELECTOR SET TO CHANNEL 2.
  4. ALL RESISTORS ARE FILM 5% PERCENT TOLERANCE, 1/4 WATT UNLESS OTHERWISE SPECIFIED. (SEE NOTE 6.)
  5. P INDICATES ±20 PERCENT TOLERANCE MAY BE USED.
  6. RESISTANCE MEASURED SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.
  7. COIL RESISTANCES NOT SPECIFIED ARE UNDER ONE OHM.
  8. ALL CAPACITY VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
  9. FOR CAPACITY TOLERANCES, SEE LEGEND.
  10. ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.
  11. MW = MEGAWATT; M = MEGACENT; μ = MICROCENT.
  12. \* INDICATES CHASSIS GROUND.
  13. V INDICATES VOLTAGE SOURCE.
  14. A INDICATES ALIGNMENT OF TEST POINT
  15. W INDICATES WAVEFORM.
  16. ALL WAVEFORMS TAKEN ON AIR SIGNAL DEVELOPING 2.5 VOLTS PEAK TO ZERO AT TEST POINT "C1" AND ALL CONTROLS SET FOR NORMAL VIEWING.
  17. TURN POWER OFF BEFORE REPLACING SEMICONDUCTORS.

- 1 2.6V P-P 60 Hz
- 2 78V P-P 60 Hz
- 3 4V P-P 60 Hz
- 4 17V P-P 15.75 KHz
- 5 17V P-P 60 Hz
- 6 32V P-P 15.75 KHz
- 7 6.5V P-P 60 Hz
- 8 0.45V P-P 60 Hz
- 9 50MV P-P 60 Hz
- 10 0.65V P-P 60 Hz
- 11 9V P-P 60 Hz
- 12 9V P-P 60 Hz
- 13 9.2V P-P 15.75 KHz
- 14 12.4V P-P 15.75 KHz
- 15 11.2V P-P 15.75 KHz
- 16 1.1V P-P 15.75 KHz
- 17 27V P-P 15.75 KHz
- 18 7.2V P-P 15.75 KHz
- 19 100V P-P 15.75 KHz

**ZENITH**  
TV Chassis  
9FB1X

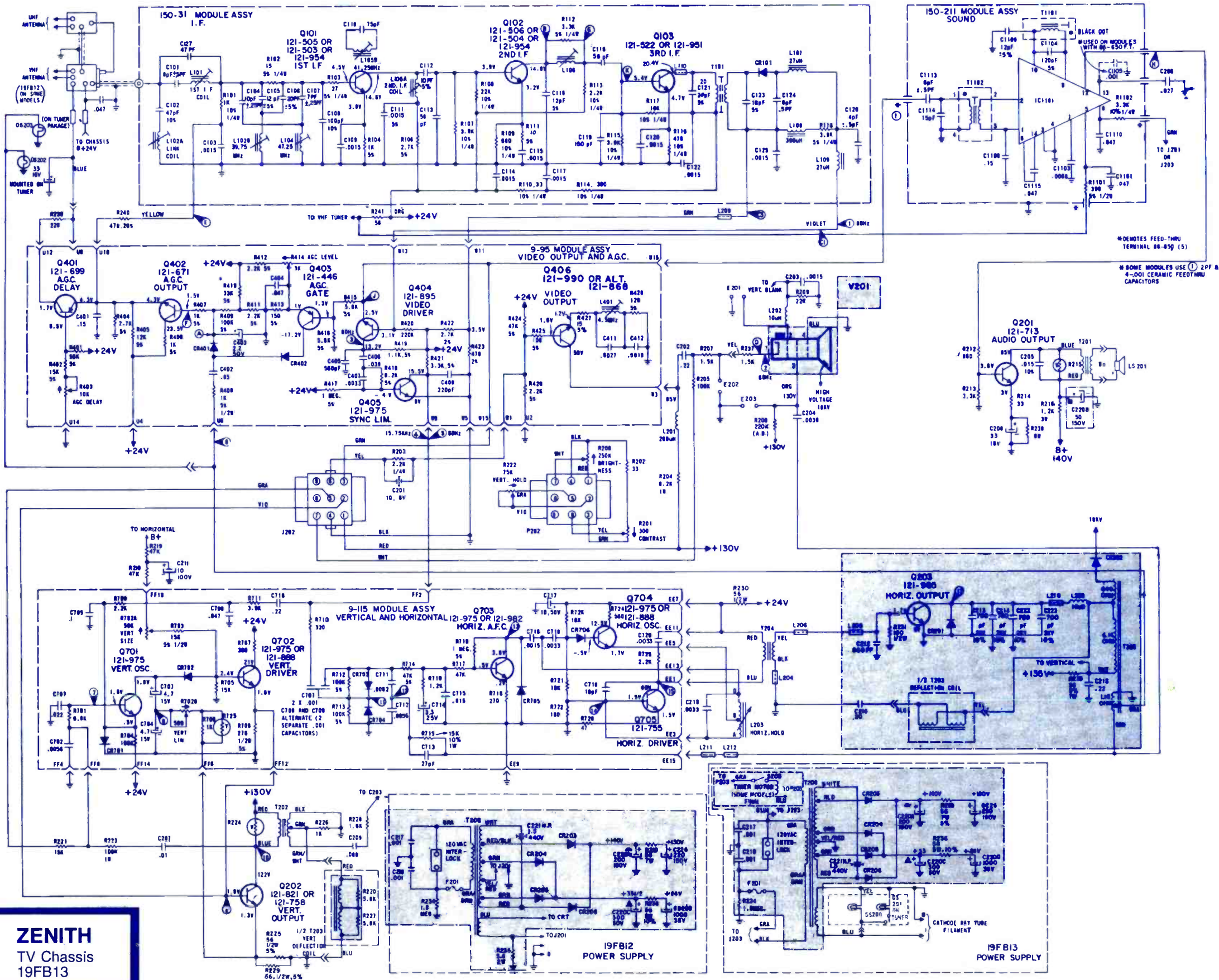


**IMPORTANT SAFETY NOTICE**

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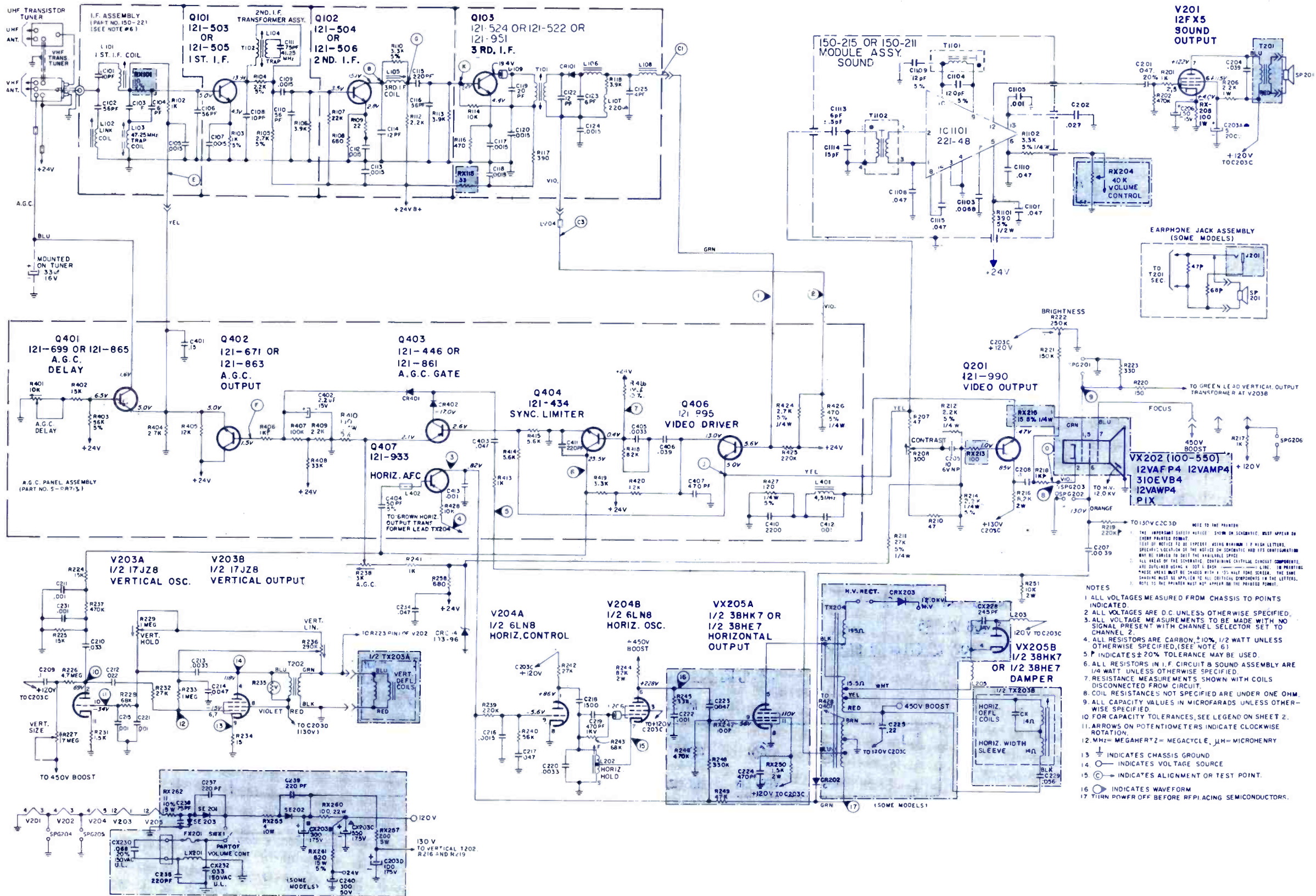
- 1 2.6V P-ZERO 60 Hz
- 2 80V P-P 60 Hz
- 3 4.6V P-P 60 Hz
- 4 15V P-P 15.75 KHz
- 5 15V P-P 60 Hz
- 6 23V P-P 15.75 KHz
- 7 5.7V P-P 60 Hz
- 8 0.8V P-P 60 Hz
- 9 50MV P-P 60 Hz
- 10 0.65V P-P 60 Hz
- 11 11V P-P 60 Hz
- 12 11.5V P-P 60 Hz
- 13 8V P-P 15.75 KHz
- 14 10V P-P 15.75 KHz
- 15 1.2V P-P 15.75 KHz
- 16 1.1V P-P 15.75 KHz
- 17 25V P-P 15.75 KHz
- 18 9V P-P 15.75 KHz
- 19 180V P-P 15.75 KHz

**ZENITH**  
TV Chassis  
19FB13

**ZENITH**  
TV Chassis  
12FB22X

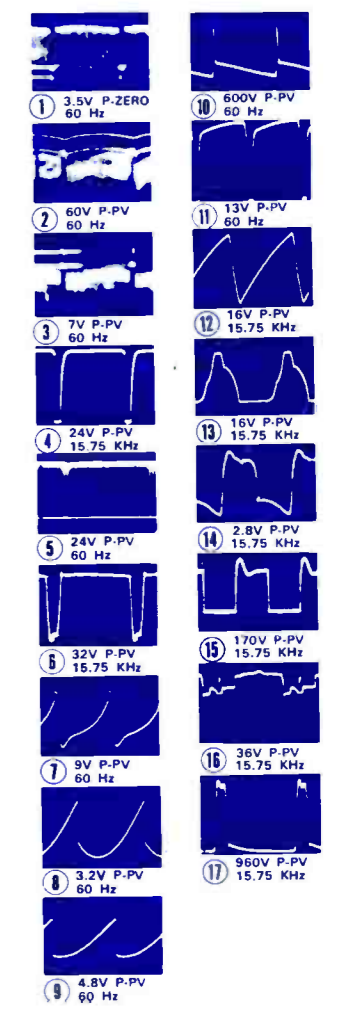
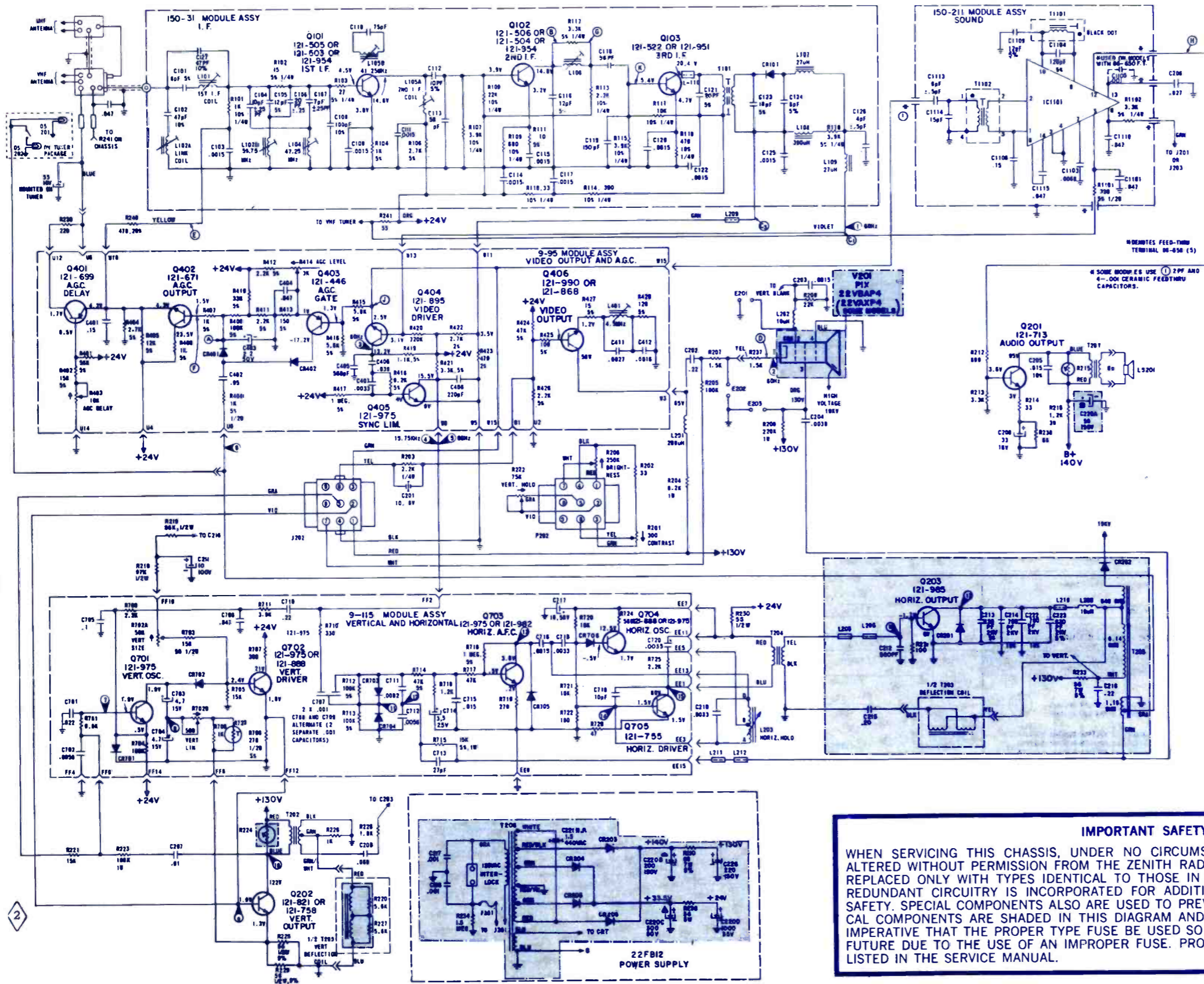
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- NOTES**
1. ALL VOLTAGES MEASURED FROM CHASSIS TO POINTS INDICATED.
  2. ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
  3. ALL VOLTAGE MEASUREMENTS TO BE MADE WITH NO SIGNAL PRESENT WITH CHANNEL SELECTOR SET TO CHANNEL 2.
  4. ALL RESISTORS ARE CARBON, 10%, 1/2 WATT UNLESS OTHERWISE SPECIFIED, (SEE NOTE 6).
  5. P INDICATES ± 20% TOLERANCE MAY BE USED.
  6. ALL RESISTORS IN I.F. CIRCUIT & SOUND ASSEMBLY ARE 1/4 WATT UNLESS OTHERWISE SPECIFIED.
  7. RESISTANCE MEASUREMENTS SHOWN WITH COILS DISCONNECTED FROM CIRCUIT.
  8. COIL RESISTANCES NOT SPECIFIED ARE UNDER ONE OHM.
  9. ALL CAPACITY VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
  10. FOR CAPACITY TOLERANCES, SEE LEGEND ON SHEET 2.
  11. ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.
  12. MHz = MEGAHERTZ = MEGACYCLE, μH = MICROHENRY
  13. ⊥ INDICATES CHASSIS GROUND
  14. ○ INDICATES VOLTAGE SOURCE
  15. ⊙ INDICATES ALIGNMENT OR TEST POINT.
  16. ⊕ INDICATES WAVEFORM
  17. TURN POWER OFF BEFORE REPLACING SEMICONDUCTORS.

1. 2.5V P-P 60 Hz
2. 2.5V P-P 15.75 KHz
3. 34V P-P 15.75 KHz
4. 15V P-P 15.75 KHz
5. 27V P-P 15.75 KHz
6. 28V P-P 60 Hz
7. 7.0V P-P 60 Hz
8. 75V P-P 15.75 KHz
9. 95V P-P 60 Hz
10. 150V P-P 60 Hz
11. 170V P-P 60 Hz
12. 30V P-P 60 Hz
13. 2V P-P 60 Hz
14. 1200V P-P 60 Hz
15. 30V P-P 15.75 KHz
16. 220V P-P 15.75 KHz
17. 275V P-P



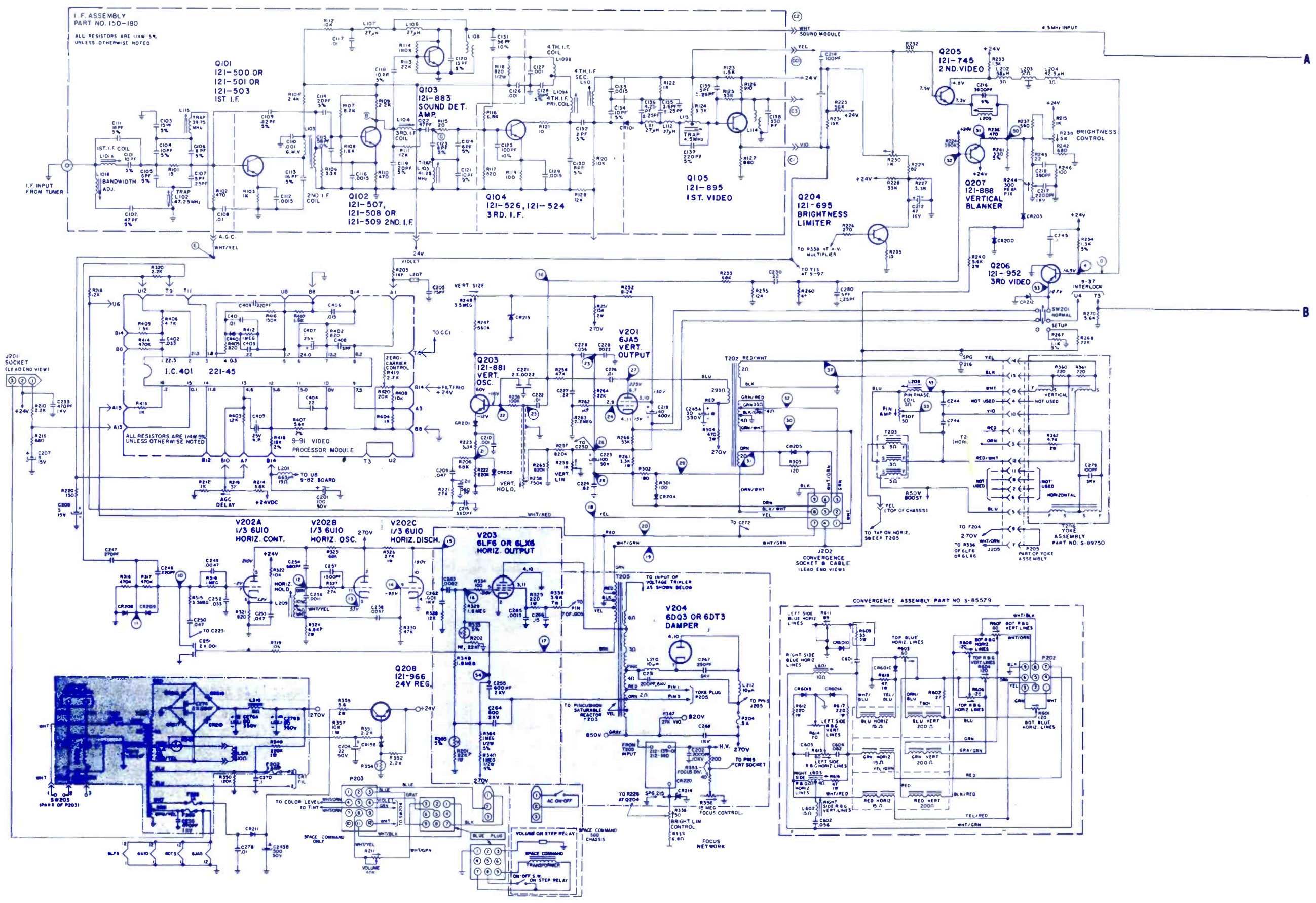
- 1 3.5V P-ZERO 60 Hz
- 2 60V P-PV 60 Hz
- 3 7V P-PV 60 Hz
- 4 24V P-PV 15.75 KHz
- 5 24V P-PV 60 Hz
- 6 32V P-PV 15.75 KHz
- 7 9V P-PV 60 Hz
- 8 3.2V P-PV 60 Hz
- 9 4.8V P-PV 60 Hz
- 10 600V P-PV 60 Hz
- 11 13V P-PV 60 Hz
- 12 16V P-PV 15.75 KHz
- 13 16V P-PV 15.75 KHz
- 14 2.8V P-PV 15.75 KHz
- 15 170V P-PV 15.75 KHz
- 16 36V P-PV 15.75 KHz
- 17 960V P-PV 15.75 KHz

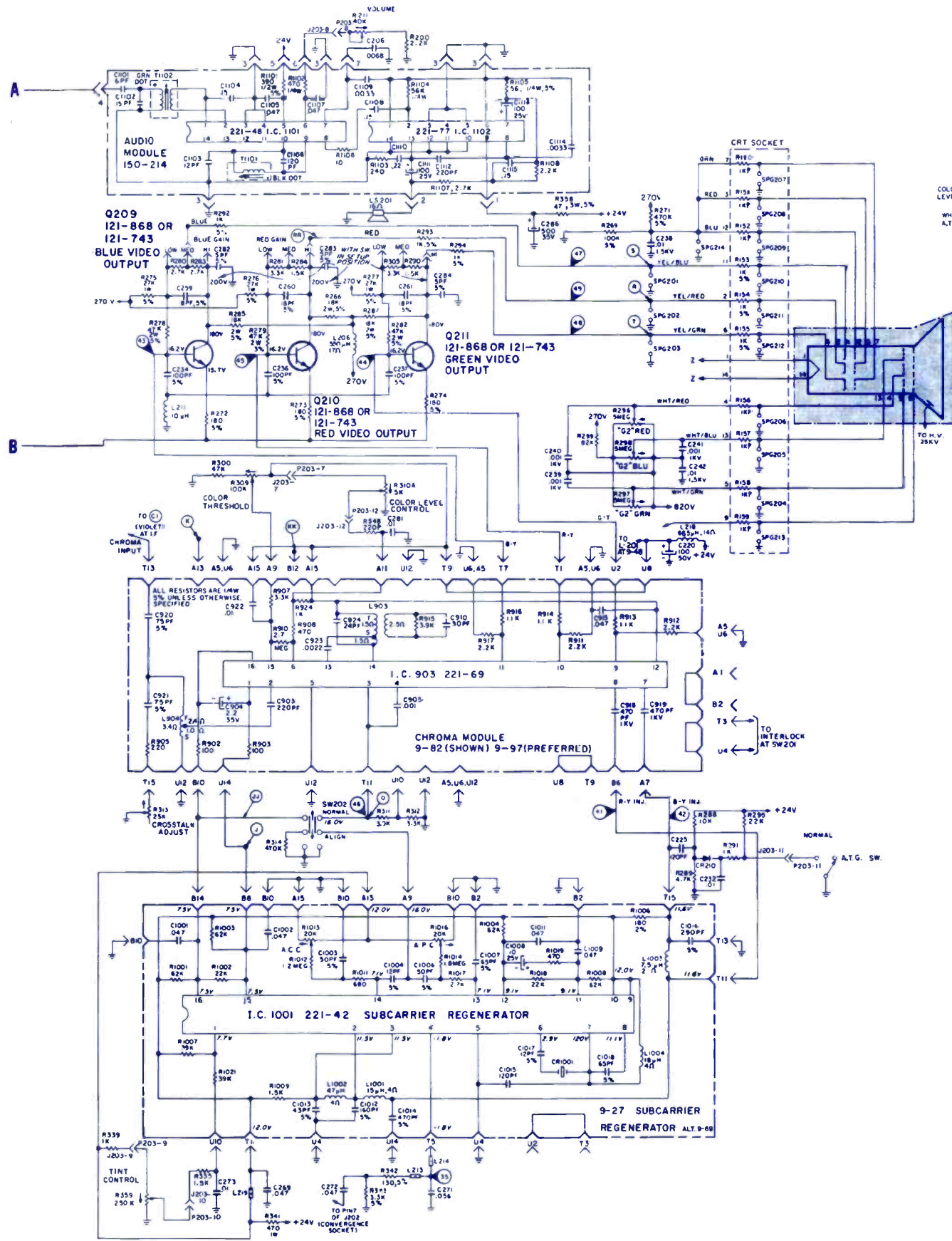
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**ZENITH**  
B-W TV Chassis  
22FB12

**ZENITH**  
 Color TV Chassis  
 19C22





**ZENITH**  
Color TV Chassis  
19C22

SOCKET.

TURN POWER OFF BEFORE REPLACING SEMICONDUCTORS.

PHOTOGRAPHS TAKEN ON A STANDARD GATED RAINBOW COLOR BAR SIGNAL. HUE SETTING ADJUSTED FOR PROPER COLOR. THE WAVESHAPES 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 1MFD. 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 WITH INPUT IMPEDANCE OF 11 MEGOHMS.

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

RESISTANCE MEASUREMENTS SHOWN WITH ADJACENT COILS DISCONNECTED FROM CIRCUIT.

ALL RESISTORS ARE  $\pm 10\%$ , CARBON, 1/2 WATT UNLESS OTHERWISE NOTED. COIL RESISTANCE UNDER ONE OHM NOT GIVEN.

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

CATHODE RAY TUBE 2ND ANODE VOLTAGE TO BE MEASURED WITH ELECTROSTATIC OR 20K OHM/VOLT (MINIMUM) HIGH VOLTAGE METER.

ARROWS ON POTENTIOMETERS INDICATE CLOCKWISE ROTATION.

PF = PICOFARADS MHZ = MEGAHERTZ  $\mu$ M = MICROMHENRY

ALIGNMENT AND TEST POINT: CHASSIS GROUND:

VOLTAGE SOURCE:  $\pm 20\%$  MAY BE USED.

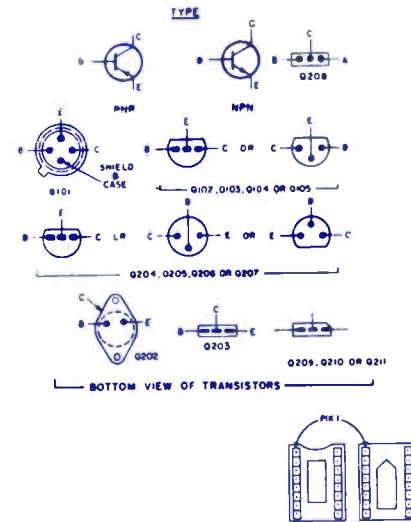
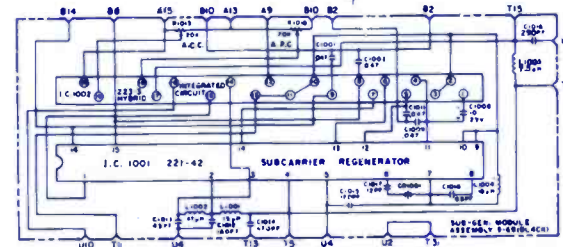
WAVEFORM CHECK POINT: MEASURED FROM POINT INDICATED TO CHASSIS GROUND.

WAVEFORM CHECK POINT: MEASURED ACROSS POINTS INDICATED (DOT TO CHASSIS GROUND). OSCILLOSCOPE SHOULD NOT BE GROUND TO CHASSIS. REVERSING LEADS REVERSES WAVEFORM.

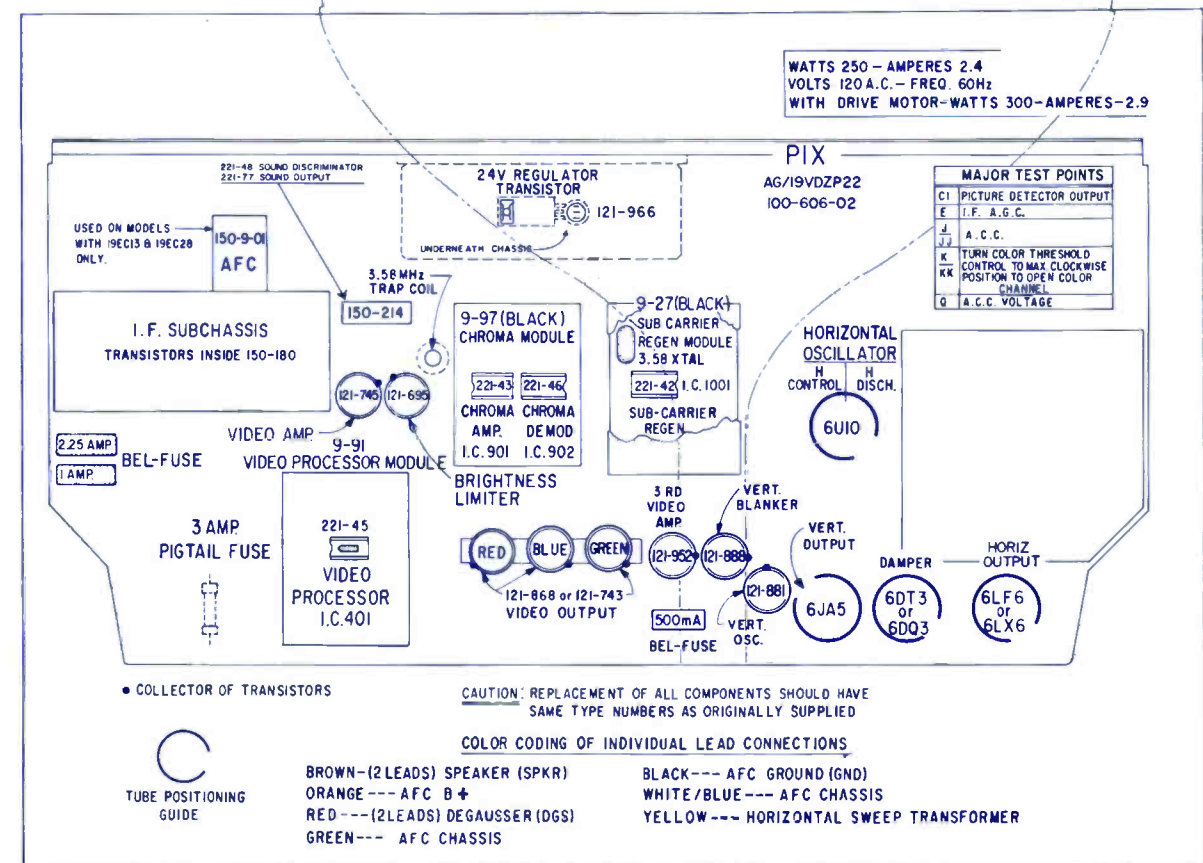
CHROMATIC SWITCH WIRING POSITION:  $\odot$

MODULE BOARD:

MODULE BOARD PIN:



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



WATTS 250 - AMPERES 2.4  
VOLTS 120 A.C. - FREQ. 60Hz  
WITH DRIVE MOTOR - WATTS 300 - AMPERES - 2.9

MAJOR TEST POINTS	
C1	PICTURE DETECTOR OUTPUT
E	I.F. A.C.C.
J	A.C.C.
K	TURN COLOR THRESHOLD CONTROL TO MAX. CLOCKWISE POSITION TO OPEN COLOR CHANNEL
Q	A.C.C. VOLTAGE

CAUTION: REPLACEMENT OF ALL COMPONENTS SHOULD HAVE SAME TYPE NUMBERS AS ORIGINALLY SUPPLIED

COLOR CODING OF INDIVIDUAL LEAD CONNECTIONS  
 BROWN --- (2 LEADS) SPEAKER (SPKR)  
 ORANGE --- AFC B +  
 RED --- (2 LEADS) DEGAUSSER (DGS)  
 GREEN --- AFC CHASSIS  
 BLACK --- AFC GROUND (GND)  
 WHITE/BLUE --- AFC CHASSIS  
 YELLOW --- HORIZONTAL SWEEP TRANSFORMER



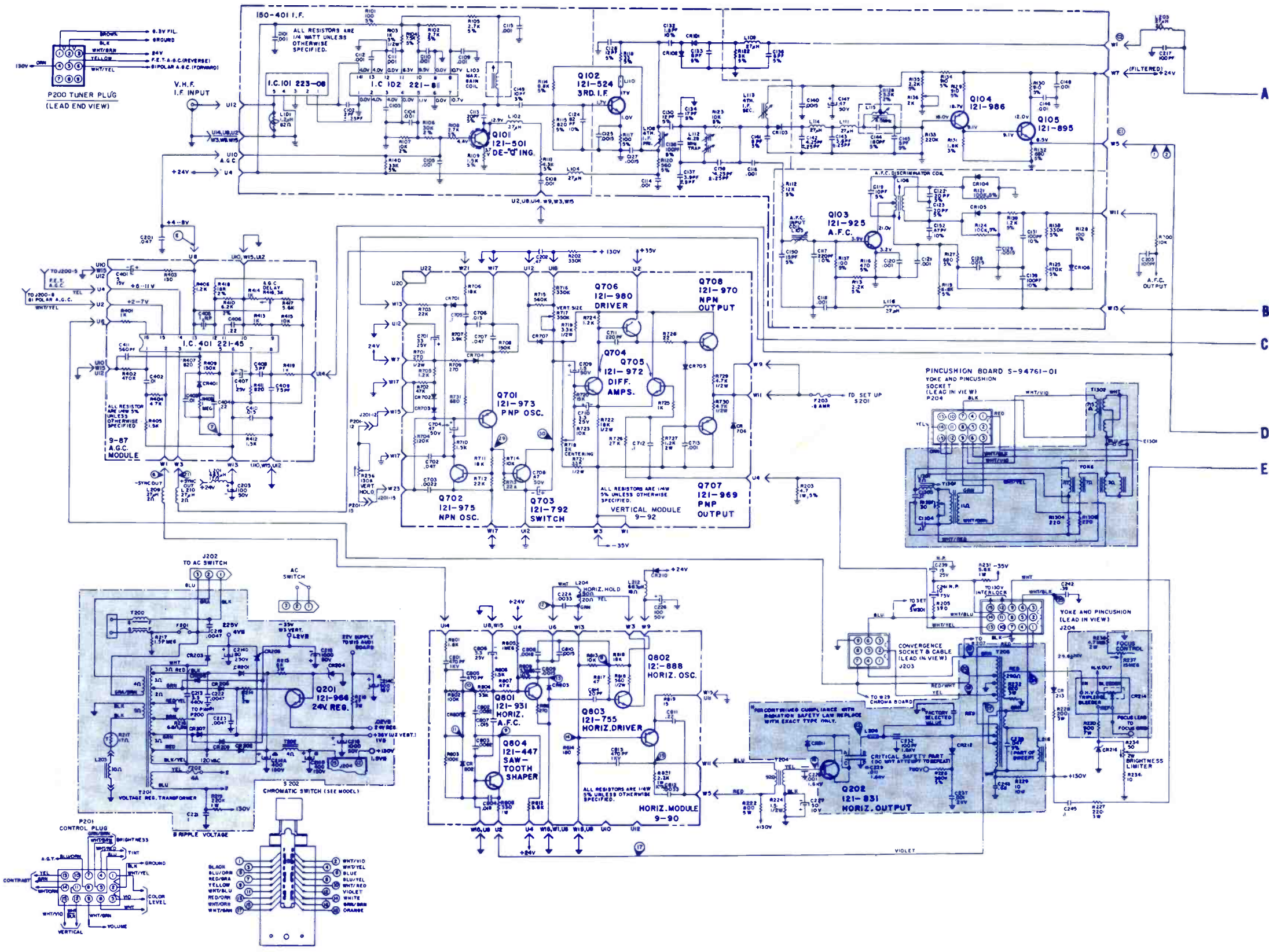
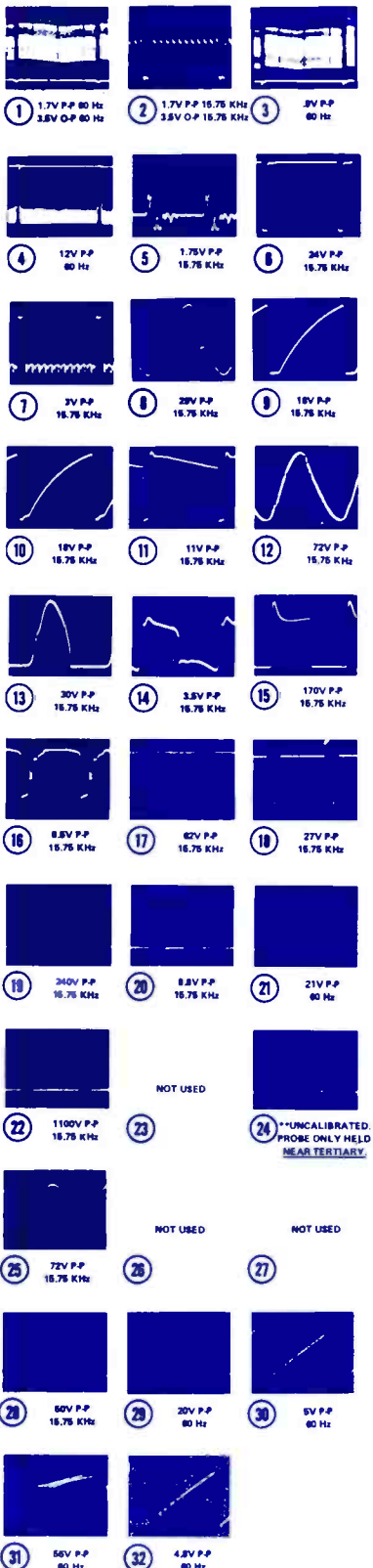
# ZENITH

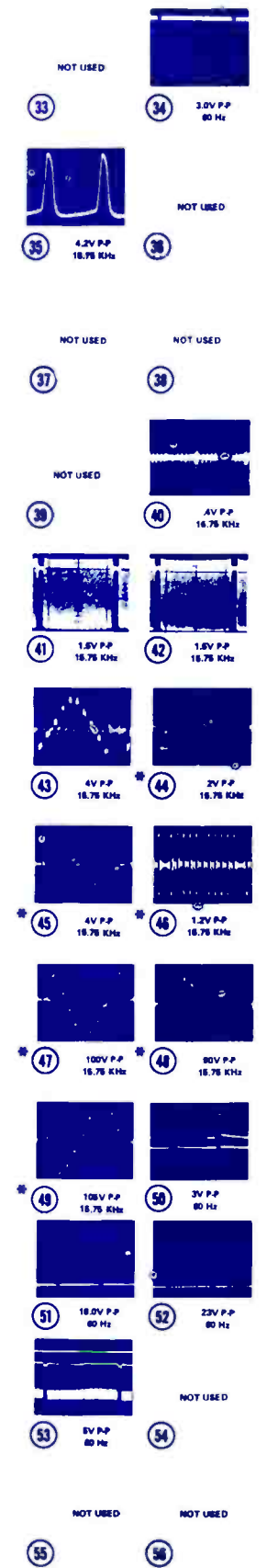
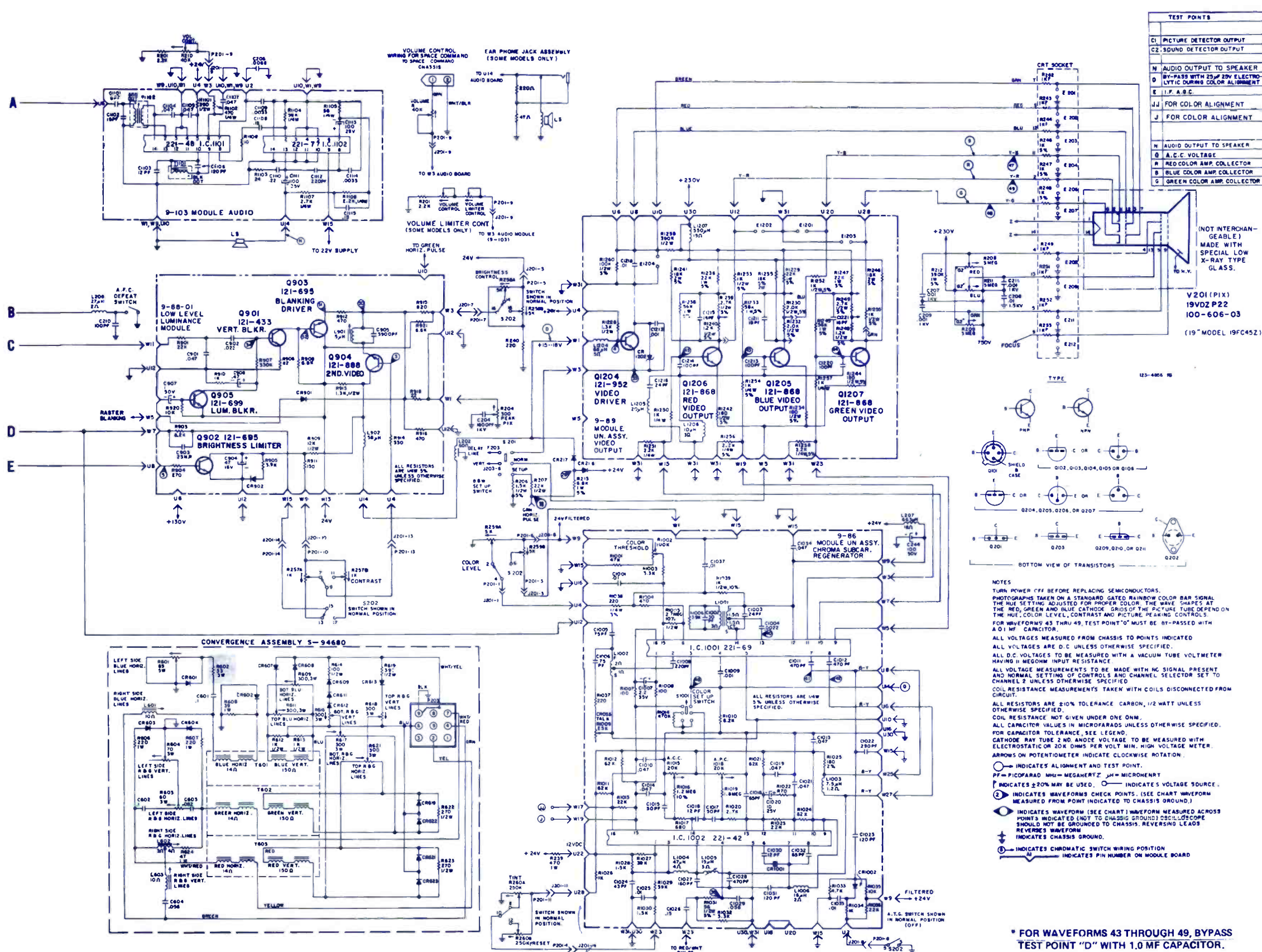
Color TV Chassis  
19FC45Z

SYMBOL DESCRIPTION ZENITH PART NO.

R234	— 50 ohm brite limiter control	63-10141
P237	— 15M focus control	63-10276
R416	— 3K AGC delay	63-9697-01
R717	— 350K vert size	63-9697-05
R718	— 2K vert center	63-9697-06
R1002	— 100K color threshold	63-9228
R1015	— 20K auto color control	63-9697

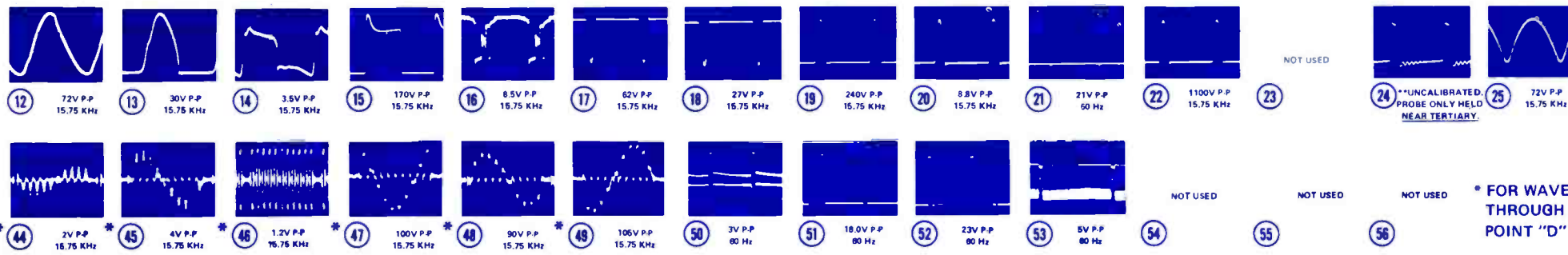
R1018	— 20K auto phase control	63-9697
L204	— horiz hold coil	S-56875
L1002	— chroma take off coil	95-3080
T202	— power choke	95-2925-02
T206	— horiz output xformer 19FC45	S-96473-02
T1101	— quad xformer	95-2789
F201	— circuit breaker	85-976-02
F202	— fuse	136-29
F203	— fuse	136-87



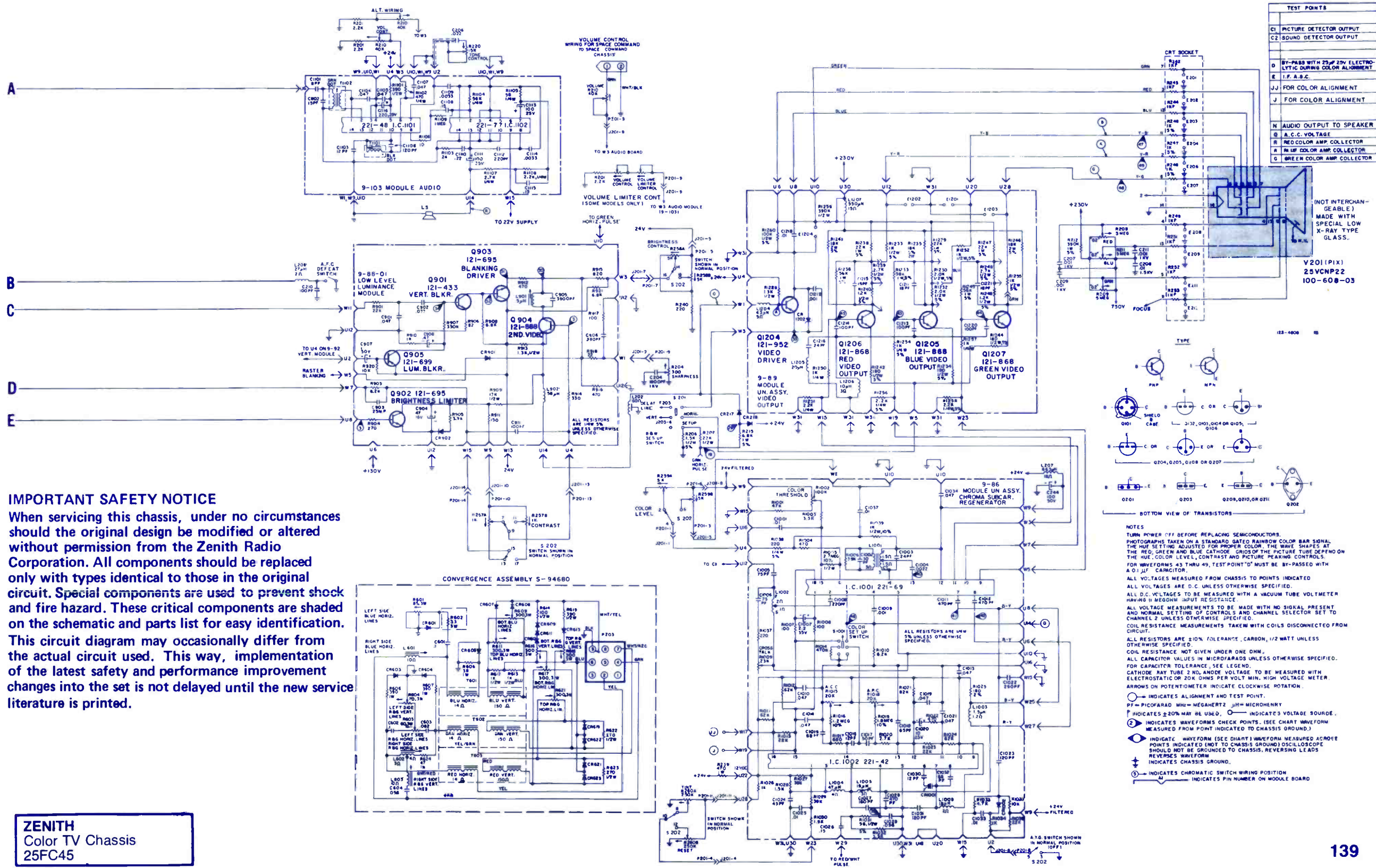


**ZENITH**  
Color TV Chassis  
19FC45Z





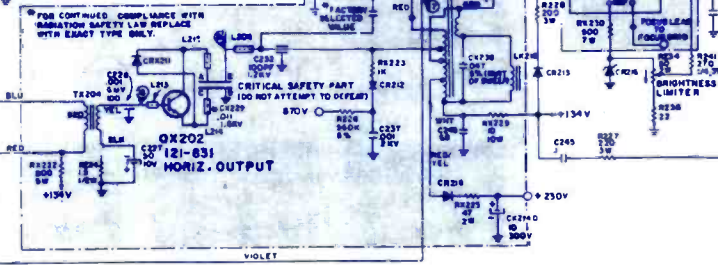
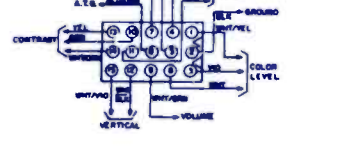
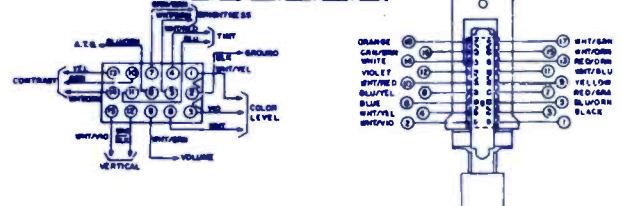
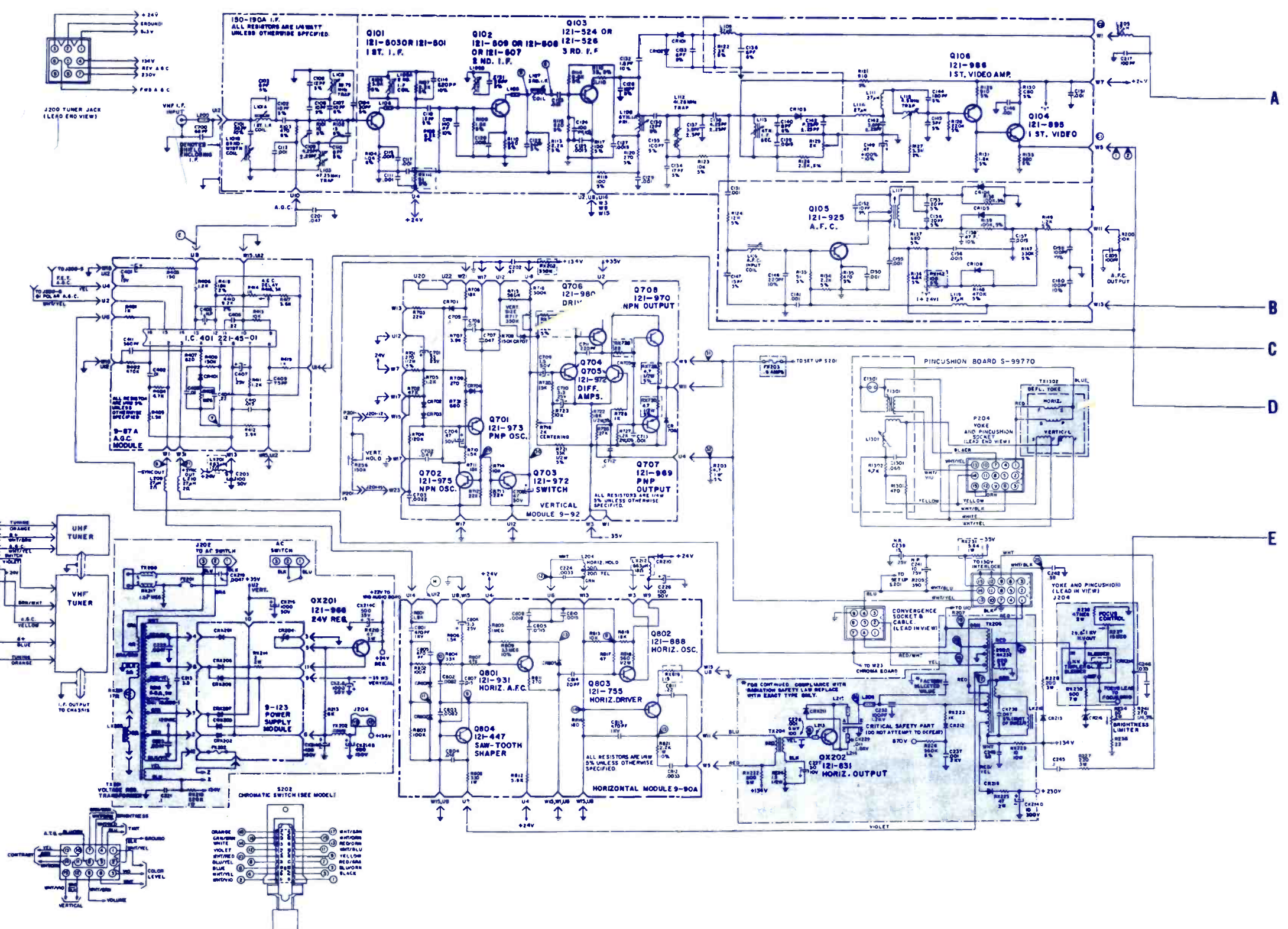
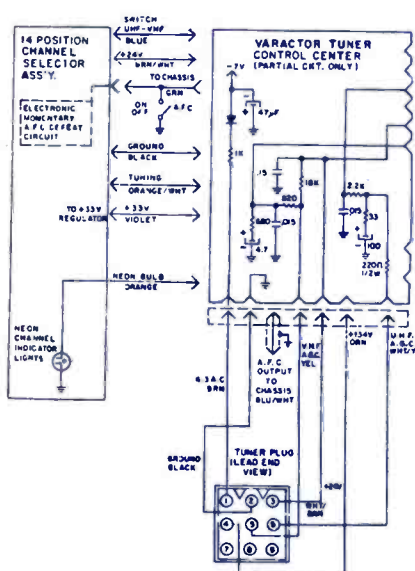
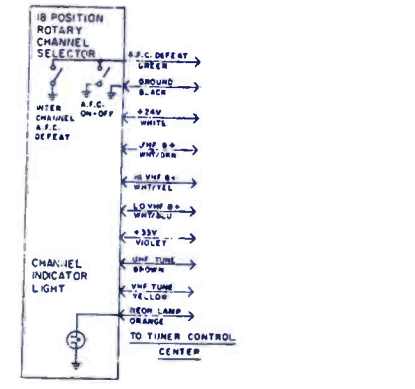
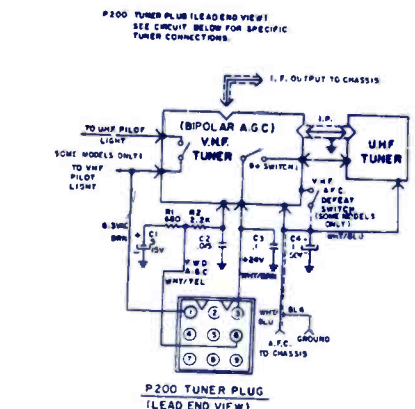
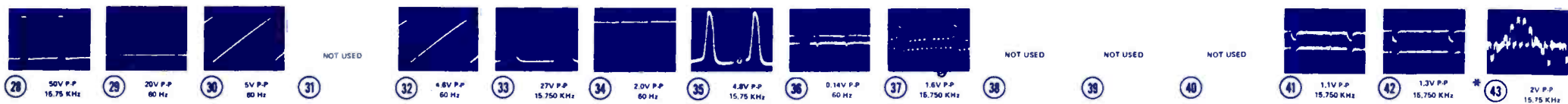
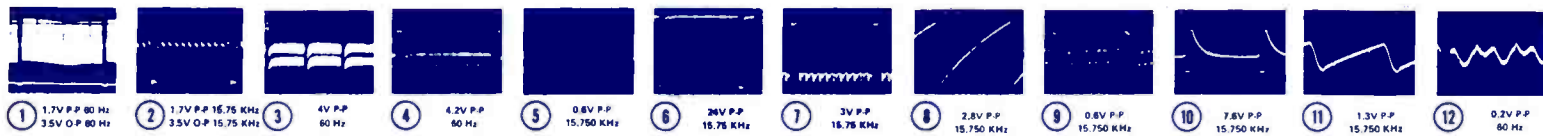
FOR WAVEFORMS 43 THROUGH 49, BYPASS TEST POINT "D" WITH 1.0 MF CAPACITOR.

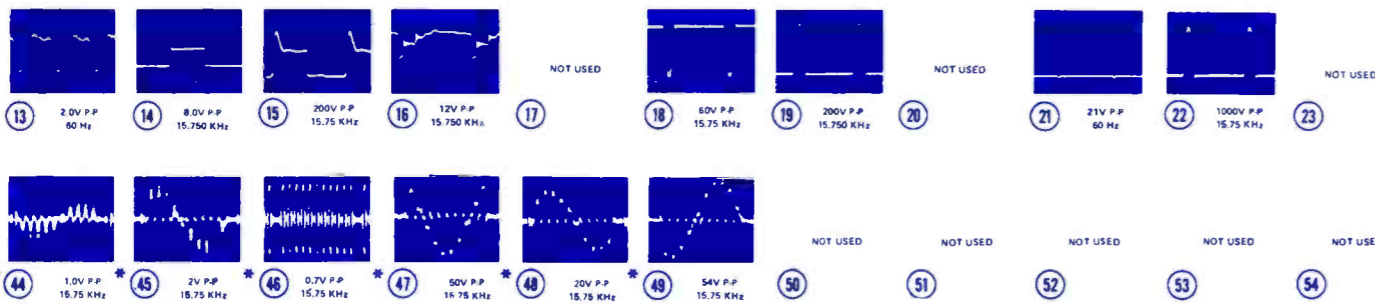


**IMPORTANT SAFETY NOTICE**  
 When servicing this chassis, under no circumstances should the original design be modified or altered without permission from the Zenith Radio Corporation. All components should be replaced only with types identical to those in the original circuit. Special components are used to prevent shock and fire hazard. These critical components are shaded on the schematic and parts list for easy identification. This circuit diagram may occasionally differ from the actual circuit used. This way, implementation of the latest safety and performance improvement changes into the set is not delayed until the new service literature is printed.

**ZENITH**  
 Color TV Chassis  
 25FC45

# ZENITH Color TV Chassis 13GC10





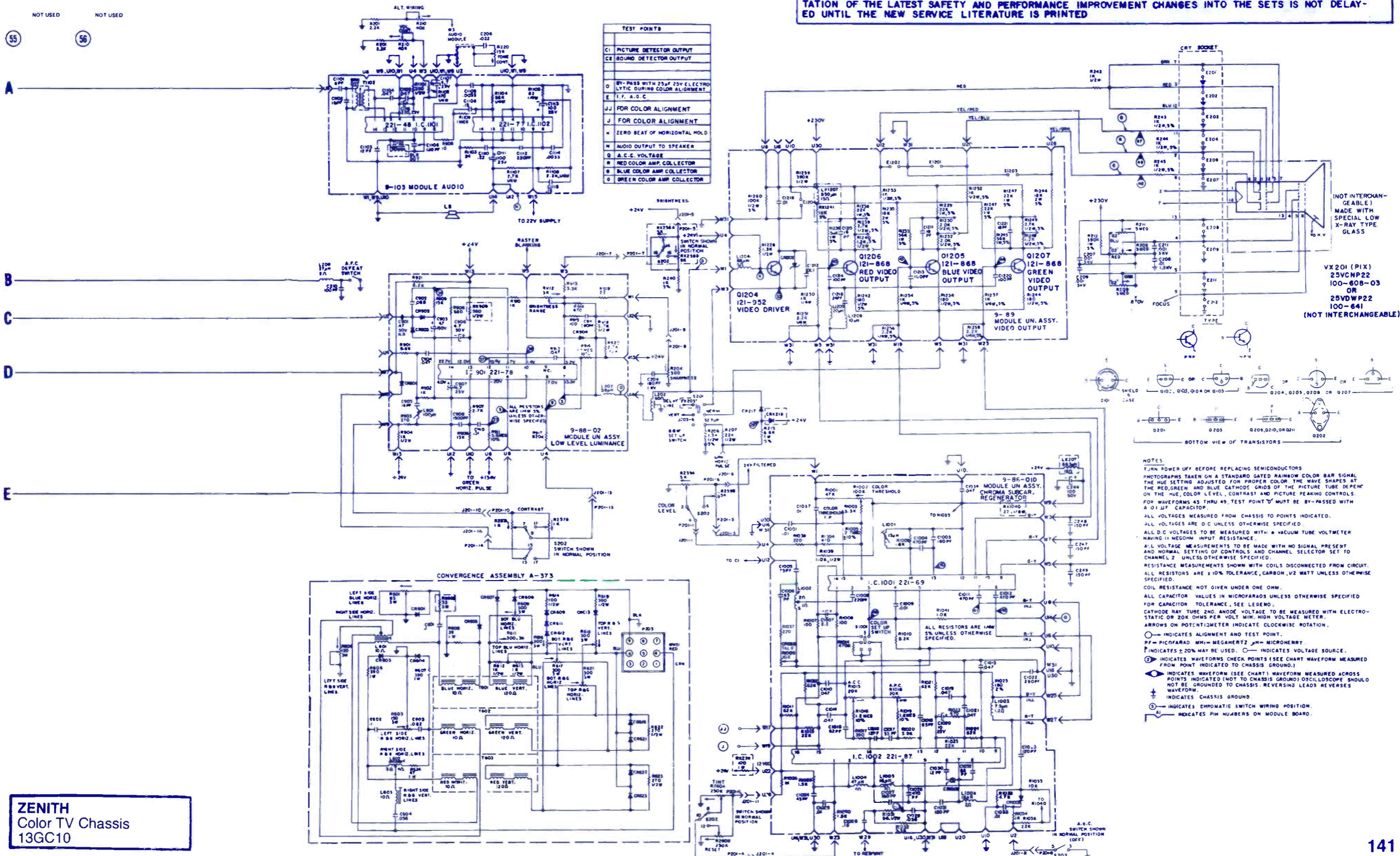
\* FOR WAVEFORMS 43 THROUGH 49, BYPASS TEST POINT "D" WITH 1.0 MF CAPACITOR.

**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, AND THEIR PHYSICAL LOCATION, WIRING AND LEAD DRESS MUST CONFORM TO ORIGINAL LAYOUT UPON COMPLETION OF REPAIRS.

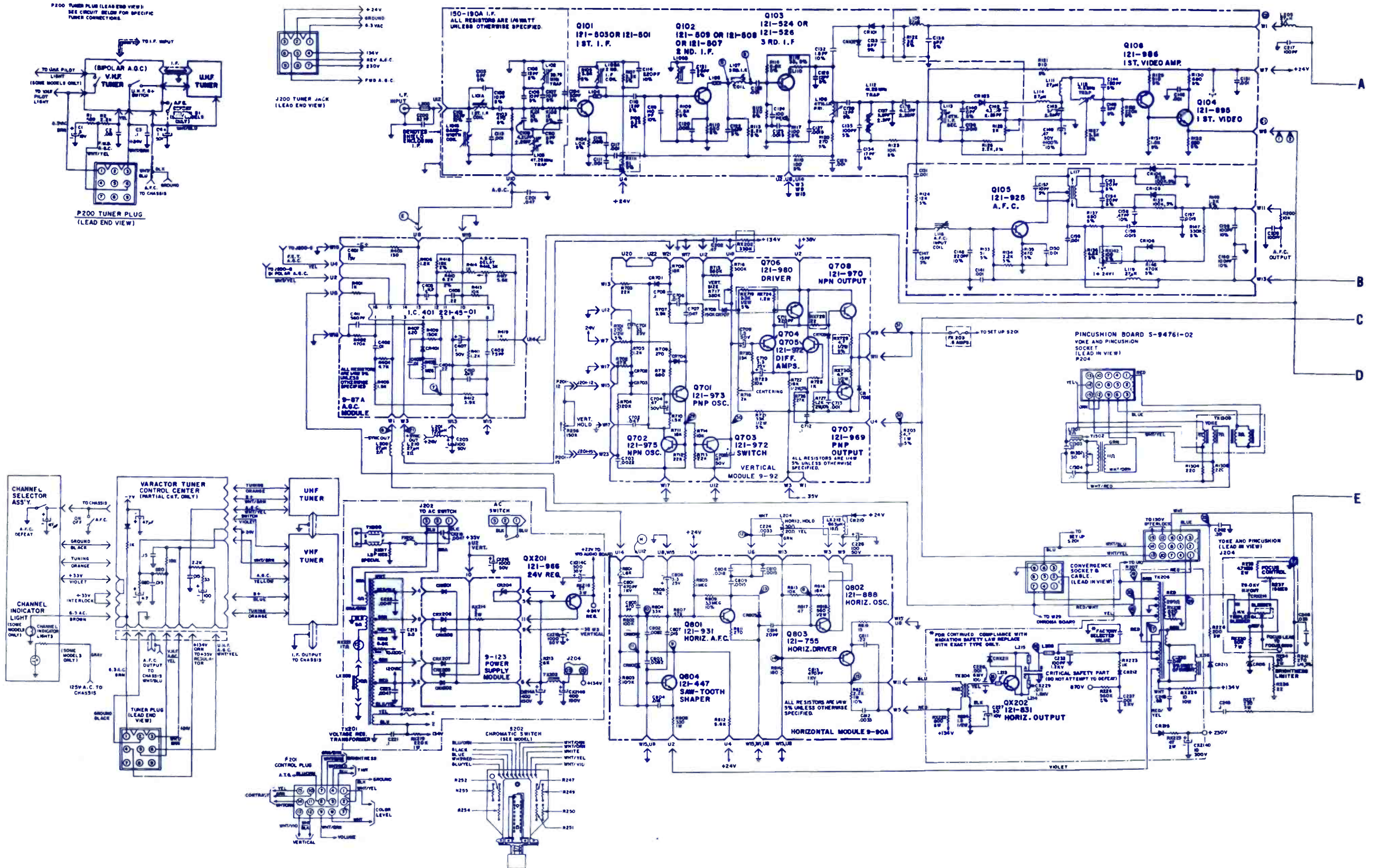
IN SOME INSTANCES REDUNDANT CIRCUITRY IS INCORPORATED FOR ADDITIONAL CIRCUIT PROTECTION AND X RADIATION SAFETY SPECIAL CIRCUITS ARE ALSO USED TO PREVENT SHOCK AND FIRE HAZARD. THESE CRITICAL AREAS ARE SHADED ON THE SCHEMATIC FOR EASY IDENTIFICATION. THE LETTER "X" INCLUDED IN THE ITEM NUMBER DESIGNATES SPECIAL FAIL SAFE COMPONENTS IN THESE AREAS (SEE PERTINENT NOTE) WHICH ARE REQUIRED TO MAINTAIN SAFE PERFORMANCE. NO DEVIATIONS ARE ALLOWED WITHOUT PRIOR APPROVAL BY THE PRODUCT SAFETY ENGINEERING DEPARTMENT.

**CAUTION:**  
 THIS CIRCUIT DIAGRAM MAY OCCASIONALLY DIFFER FROM THE ACTUAL CIRCUIT USED. THIS WAY IMPLEMENTATION OF THE LATEST SAFETY AND PERFORMANCE IMPROVEMENT CHANGES INTO THE SETS IS NOT DELAYED UNTIL THE NEW SERVICE LITERATURE IS PRINTED

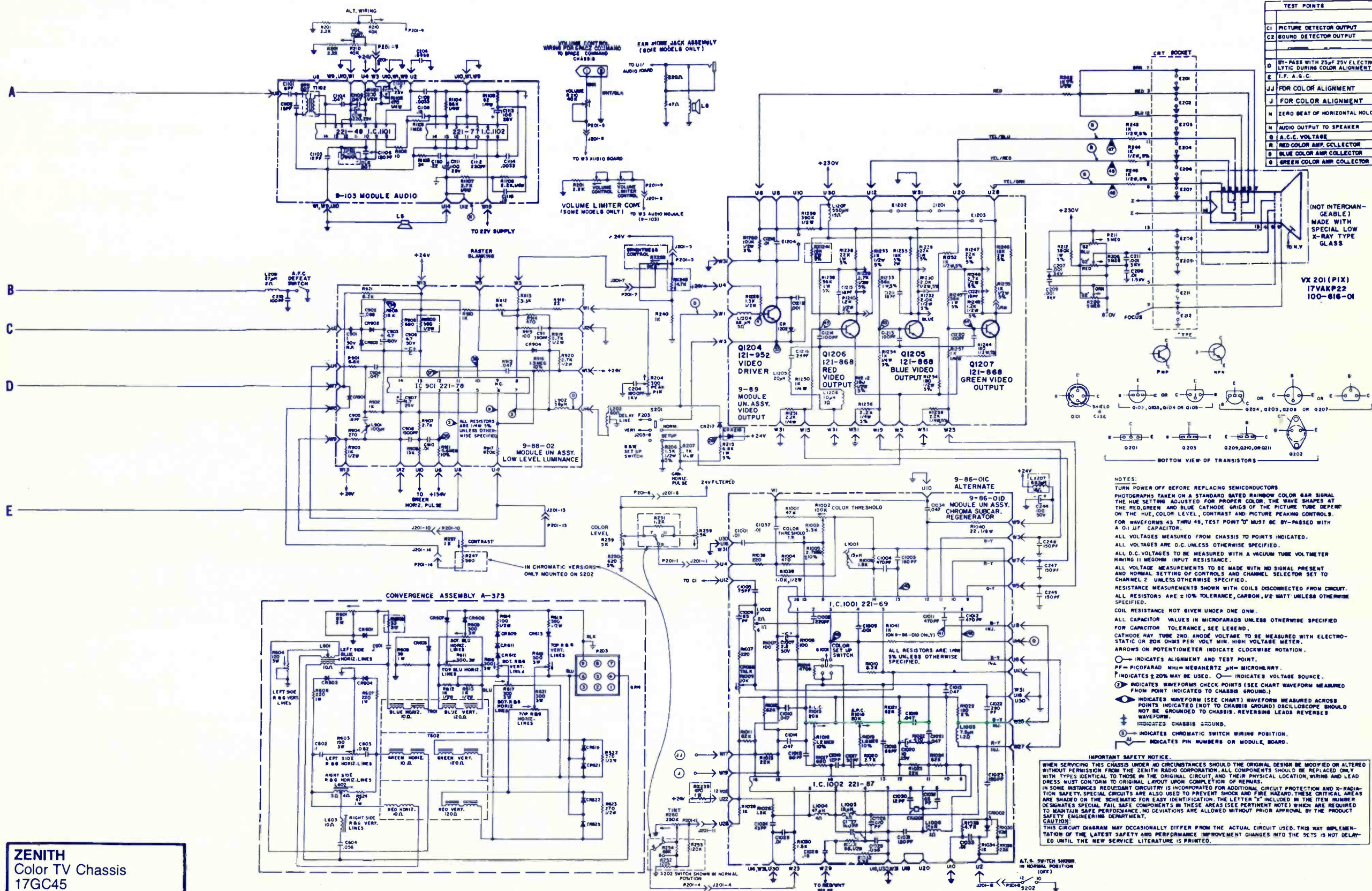


**ZENITH**  
 Color TV Chassis  
 13GC10

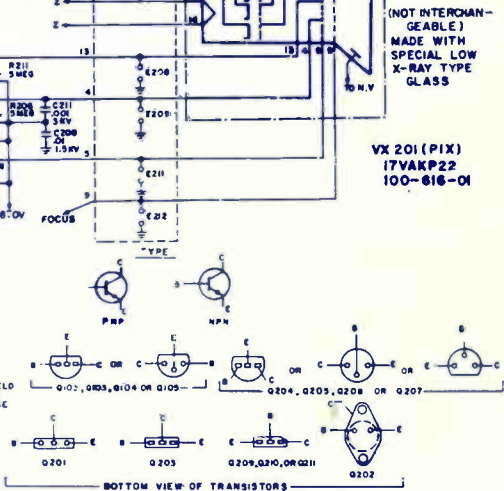
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17GC45



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Color TV Chassis  
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TEST POINTS	
C1	PICTURE DETECTOR OUTPUT
C2	SOUND DETECTOR OUTPUT
D	BY-PASS WITH 25µF 25V ELECTROLYTIC DURING COLOR ALIGNMENT
E	T.F. A.C.C.
JJ	FOR COLOR ALIGNMENT
J	FOR COLOR ALIGNMENT
N	ZERO BEAT OF HORIZONTAL HOLD
H	AUDIO OUTPUT TO SPEAKER
Q	A.C.C. VOLTAGE
R	RED COLOR AMP. COLLECTOR
B	BLUE COLOR AMP. COLLECTOR
G	GREEN COLOR AMP. COLLECTOR



**NOTES:**

- TURN POWER OFF BEFORE REPLACING SEMICONDUCTORS.
- PHOTOGRAPHS TAKEN ON A STANDARD RATED RAINBOW COLOR BAR SIGNAL THE HUE SETTINGS 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 MUST BE BY-PASSED WITH A 0.1 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 POTENTIOMETER INDICATE CLOCKWISE ROTATION.
- ⊙ INDICATES ALIGNMENT AND TEST POINT.
- PF = PICOFARAD MH = MEGANEART µM = MICROMHAY.
- ⊕ INDICATES ±20% MAY BE USED. ⊖ INDICATES VOLTAGE SOURCE.
- ⊗ INDICATES WAVEFORMS 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 GROUND TO CHASSIS. REVERSING LEADS REVERSES WAVEFORM.
- ⊕ INDICATES CHASSIS GROUND.
- ⊕ INDICATES CHROMATIC SWITCH WIRING POSITION.
- ⊕ INDICATES PIN NUMBERS OR MODULE, BOARD.

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