The television skill game that fits the mood of any scene.

- Large Size Solid State T.V.
- Additional Adjustable Timer Control
- Dimensions: 26½" wide, 24" deep, 64" high

MIDWAY MFG. CO. — *3750 River Road—Schiller Park, Illinois 60176 phone: (312) 678-1350*

DISTRIBUTED BY:

PRINTED IN U.S.A.

CABLE ADDRE
"MIDCO"

MIDWAY MFG. CO.

PHONE: AREA CODE [illegible] 350

3750 RIVER ROAD • SCHILLER PARK, ILLINOIS 60176

N E W R E L E A S E

Midway's "Winner"

Midway's new table tennis game, WINNER, will be in your distributor's showroom soon. This game is being built under license and with the co-operation of Atari, Inc., of Santa Clara, California, (Syzygy Engineered), the inventor and developer of the game.

Midway has reaped the benefits of months of location testing. WINNER lends itself to the sophisticated atmosphere of all locations. This unit has extra circuitry to allow the audience to view the match play on the location's television set, if desired.

The fascinating, competitive play has caught the eye of every age group, and has made it the most exciting game of the decade.

The outside dimensions are 26 1/2" wide X 23 7/8" deep x 64" high.

Sincerely,

MIDWAY MFG. CO.

Larry Berke

Larry Berke
Director of Sales

LB/r

GAME OVER
Energized when selected time is reached.

CREDIT
Energized via coin sws. to start game via Credit Button when start Jack is in top pos.

COIN
Energized via coin sws. or Credit Button dependent on start Jack pos.

← GAME TIMER P.C. 567-907

CREDIT ONE-SHOT UNIT P.C. 567-911 →

START CONTROL JACK

starts game via

- Credit Button
- Coin Switches

WINNER "19" EQUIPMENT CHART

COIL	PER GAME	APPLICATION
M-33-1700 D.C.	3	Coin, Credit & Game-Over relay coils.
MT-37	1	60 Cycle Transformer
MT-38	1	50 Cycle Transformer
PRINTED CIRCUITS		
567-904	1	Game Logic
567-907	1	Game-Over Timer
567-911	1	Credit One-Shot

TIMER ADJUSTMENT JACK

- **OFF**
- **7 MIN.**
- **6 MIN.**
- **5 MIN.**

P.C. 567-904
WINNER LOGIC UNIT 18 MONTH UNCONDITIONAL WARRANTY

POLARITY LAMP CAUTION

If Polarity Lamp is lit reverse TV. Set Line Cord in order to prevent electrical shock

AS OF GAME #668

WINNER 4-73 - PACKARD BELL 19" TV

S E R V I C E B U L L E T I N

GAME: Winner 19

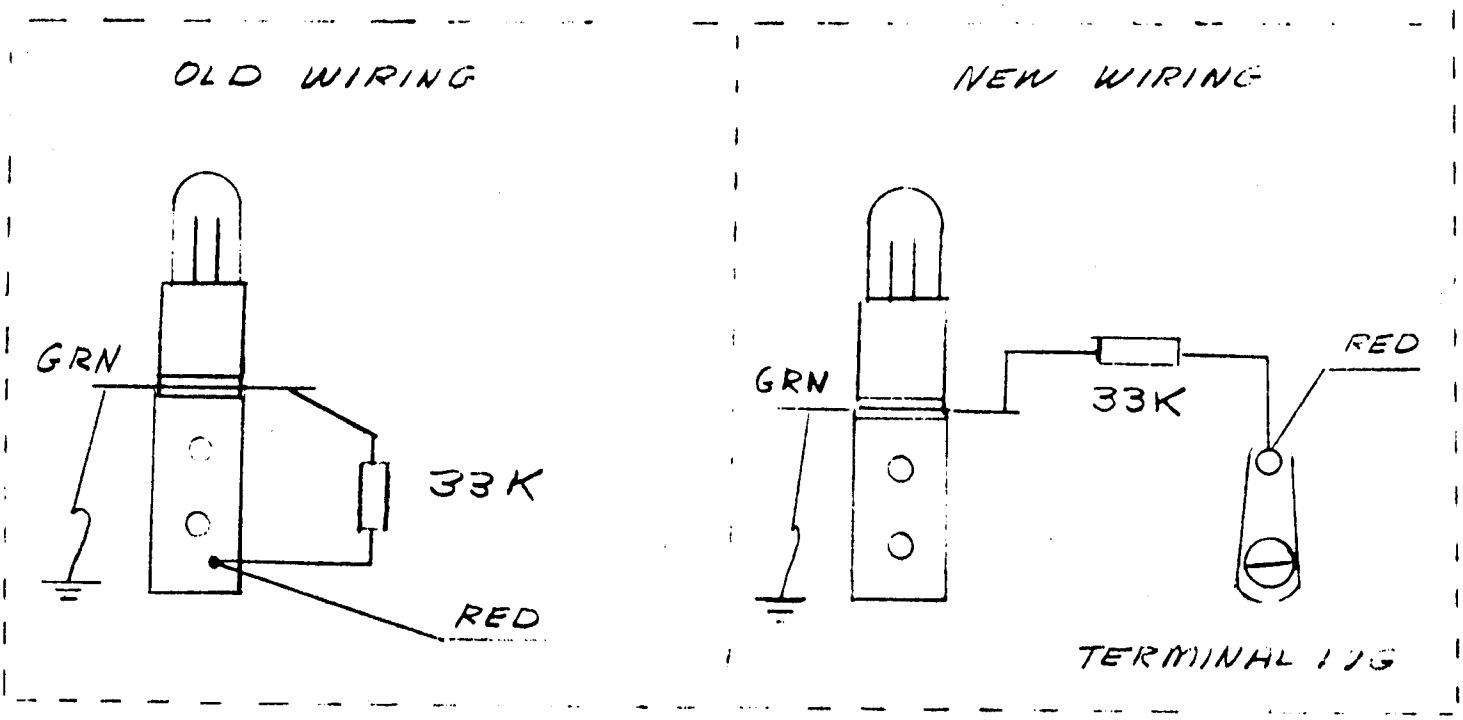
CONDITION:

Possible polarity lamp socket shorting causing damage to cable and logic P.C. 567-904.

Please make the following modifications in games with Serial Numbers 675 thru 2600:

1.) Remove 33K resistor and red wire from lamp socket bracket.

2.) Solder 33K resistor and red wire to new terminal lug as shown.



NEON POLARITY LITE

General Instructions for WINNER

Installation:

The power is controlled by a switch located on top of the cabinet. Plug into A.C. only, 115 volts, 60 cycles.

Equipment Panel and Logic Unit:

Located in back box area and are easily serviced by removing back door.

Score Slide Switch:

Located on Logic Unit to end game at 11 or 15 points.

Timer Jack:

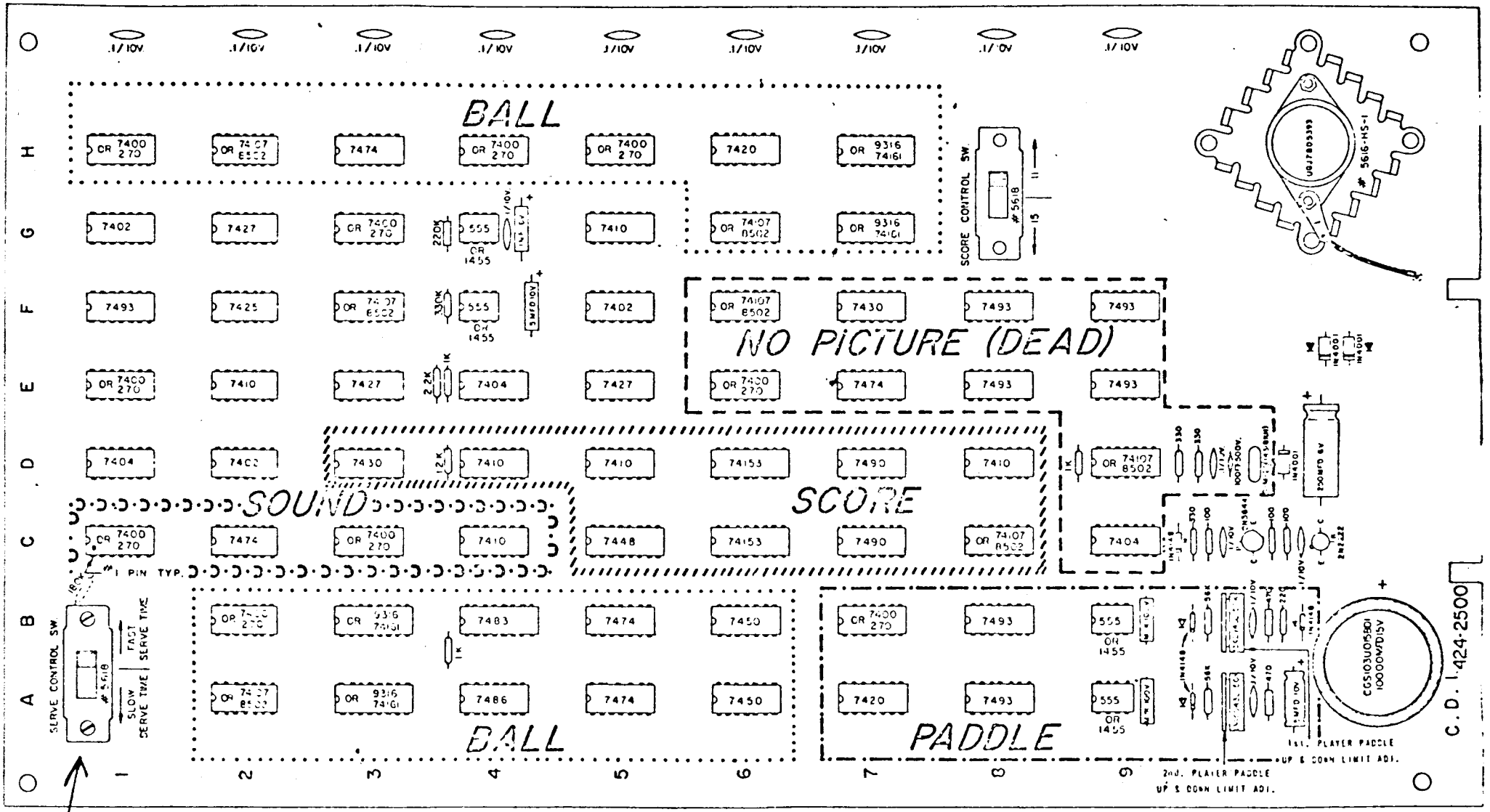
Located on equipment panel. This jack is provided as an optional feature and is adjustable from 5, 6, or 7 minutes. In the "OFF" position, the game will end when designated score is reached.

Volume Control:

Located on top of cabinet. To increase volume, rotate in a clockwise direction.

M I D W A Y M F G. C O.

3750 River Road Schiller Park, Illinois



NOT IN WINNER

TROUBLE SHOOTING - WINNER LOGIC PC567-904

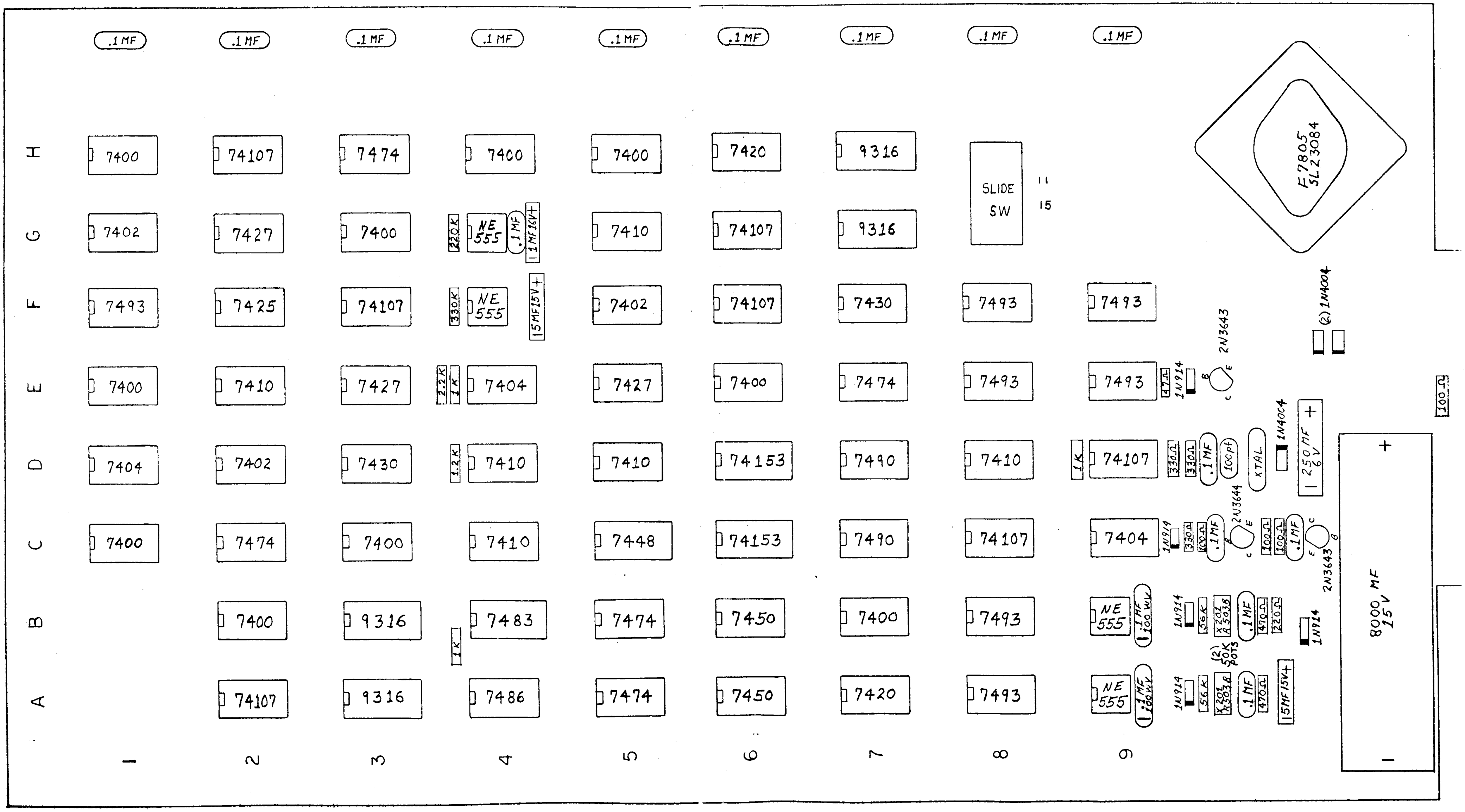
Location	Chip No.	Possible Trouble
A2	74107	No Ball
A3	9316	Series of Balls - No Audio
A4	7486	Distorted Video (Picture Rolls)
A5	7474	No Ball
A6	7450	Prevents ball from traveling downward
A7	7420	Distorted Paddles
A8	7493	No Right Paddle
A9	NE555	No Right Paddle
B2	7400	No Paddles - No Audio - No Score Ball Travels from top to bottom at rapid rate
B3	9316	Series of Distorted Balls - Distorted Audio
B4	7483	Ball Serves Rapidly from bottom up
B5	7474	No Ball - No Score
B6	7450	Ball Travels from bottom up
B7	7400	Stays in Game Over
B8	7493	No Left Paddle - No Ball
B9	NE555	No Left Paddle - No Ball - No Audio
C1	7400	No Audio
C2	7474	Audio Distortion (Also no hit Audio)
C3	7400	Distorted Display - No Audio
C4	7410	Distorted Display - No Audio
C5	7448	Distorted Series of Displays
C6	74153	Scores Incorrect
C7	7490	No Left Display
C8	74107	First Score Kills Game
C9	740	Head

Location	Chip No.	Possible Trouble
D1	7404	No Ball - No Score
D2	7402	No Score Display - No Ball - Audio Distortion
D3	7430	No Display
D4	7410	Distorted Display
D5	7410	Distorted Display
D6	74153	Distorted Score
D7	7490	No Right Display
D8	7410	No Vertical Sync. - No Audio
D9	74107	Dead (Picture Rolls)
E1	7400	Fast Serve - No Score
E2	7410	Distorted Left Display - No Right Display-No Ball
E3	7427	Distorted Display
E4	7404	Distorted Video (Picture Rolls)
E5	7427	Distorted Display - First Score Kills Game
E6	7400	Dead
E7	7474	Dead
E8	7493	Dead
E9	7493	Dead Except Net (Picture Rolls)
F1	7493	Fast Serve
F2	7425	Distorted Series of Displays
F3	74107	Distorted Audio and Net
F4	NE555	Stays in Game Over
F5	7402	Distorted Video (Picture Rolls)
F6	74107	Dead
F7	7430	Dead
F8	7493	Dead
F9	7493	Dead

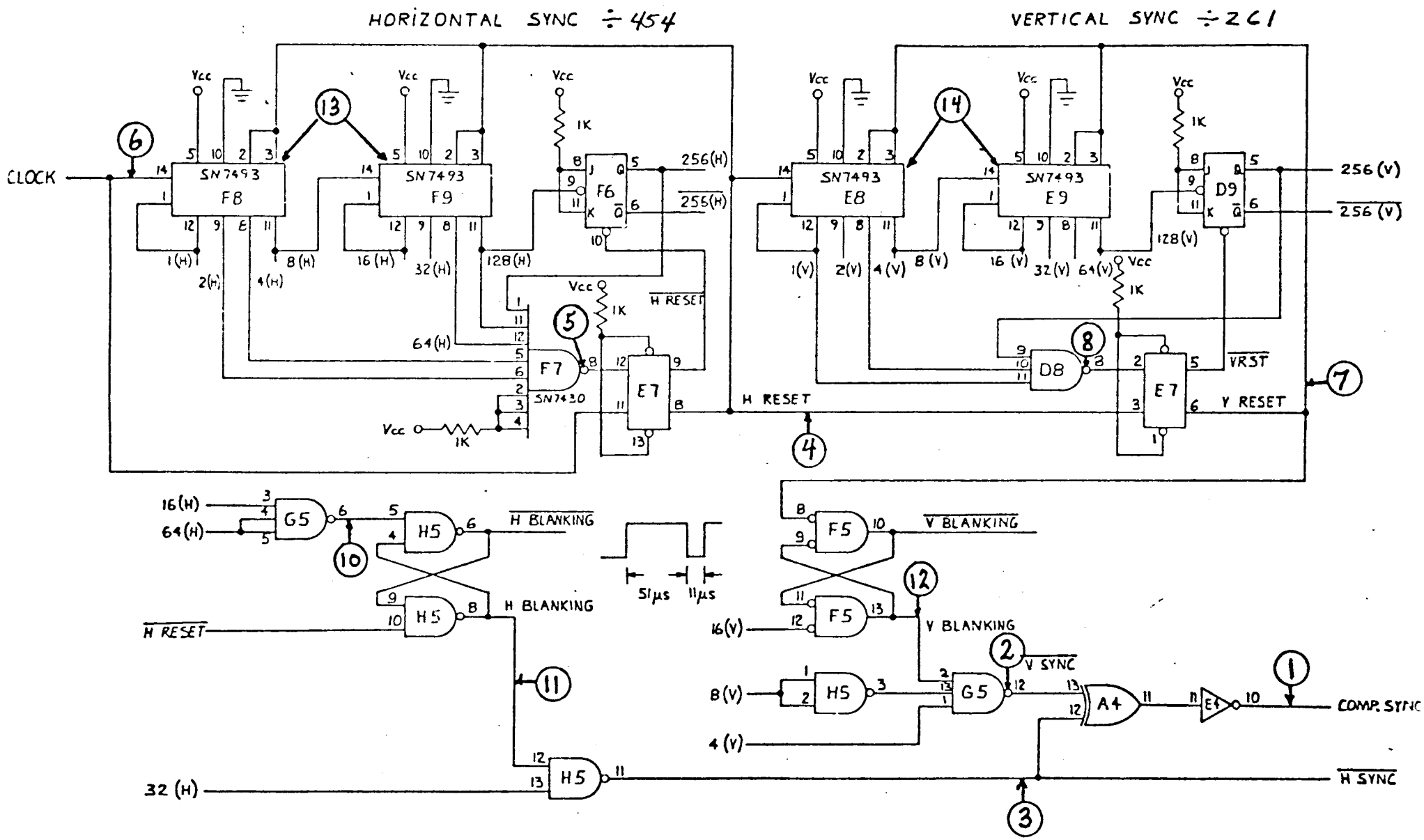
Location	Chip No.	Possible Trouble
G1	7402	No Video - Distorted Audio
G2	7427	Dead Except Display
G3	7400	Dead Except Display
G4	NE555	Distorted Audio
G5	7410	Distorted Video (Picture Rolls) Distorted Audio - No Game Over
G6	74107	No Ball
G7	9316	No Ball
H1	7400	Ball Moves in Vertical direction only
H2	74107	Ball Moves in Vertical direction only
H3	7474	Distorted Paddles - No Score- No Game Over
H4	7400	No Ball
H5	7400	Distorted Video (Picture Rolls)
H6	7420	Stay in Game Over
H7	9316	No Ball - No Score

WINNER LOGIC PC567-904

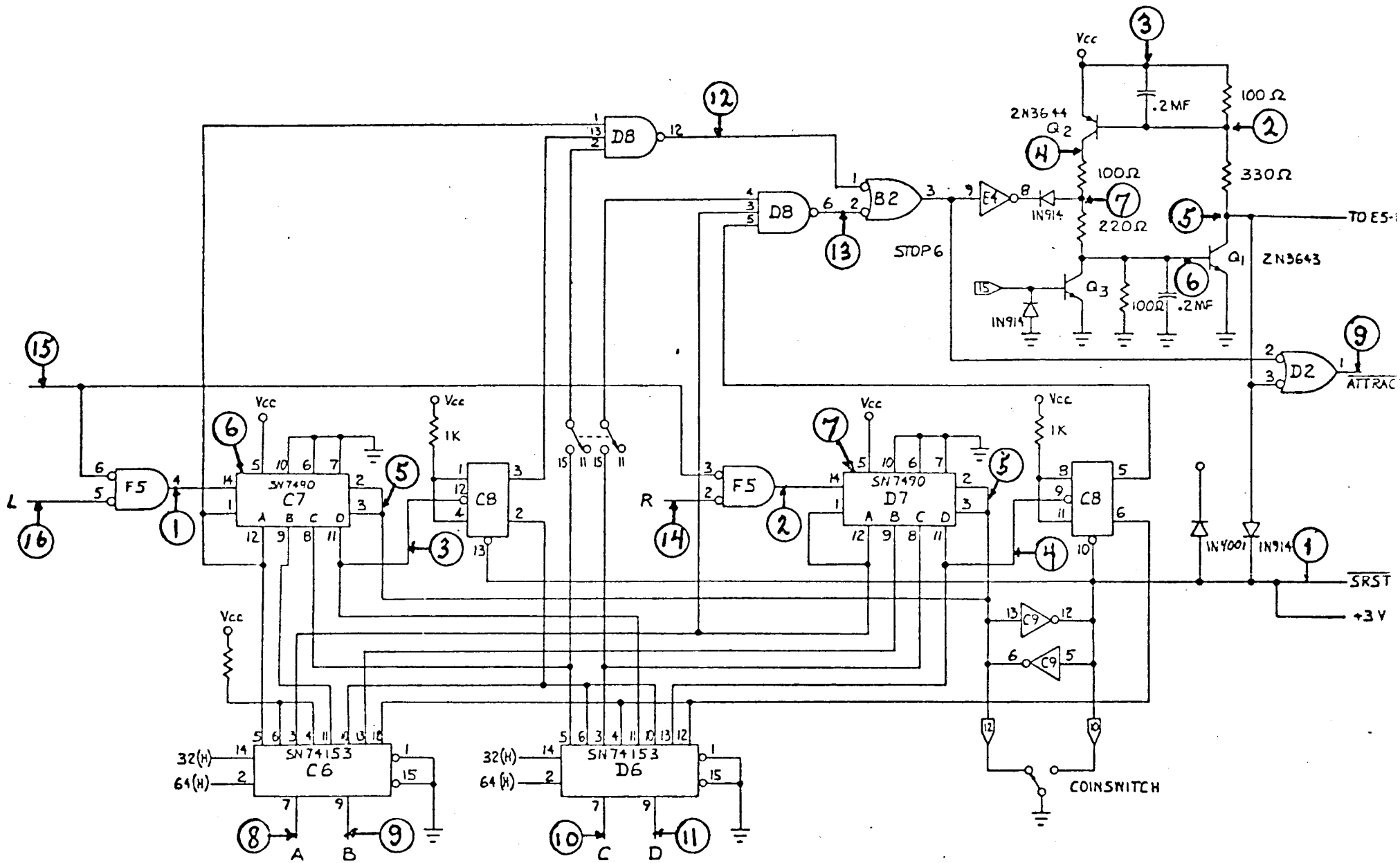
Chip Number	Function
7400	Quad. two input nand-gate.
7402	Quad. two input nor-gate.
7404	Hex. inverter.
7410	Triple nand-gate.
7425	Dual four input nor-gate with strobe.
7427	Positive nor-gate.
7430	Eight input or-gate.
7448	B.C.D. to seven segment decoder.
7450	Expandable dual two input and-or inverter gate.
7474	J-K Flip-Flop.
7483	A four-bit binary full adder.
7490	Decade counter.
74107	Dual J-K Flip-Flop
74153	Dual 4 to 1 data selector multi-plexer.
9316	Four-bit counter low PWR. (up)



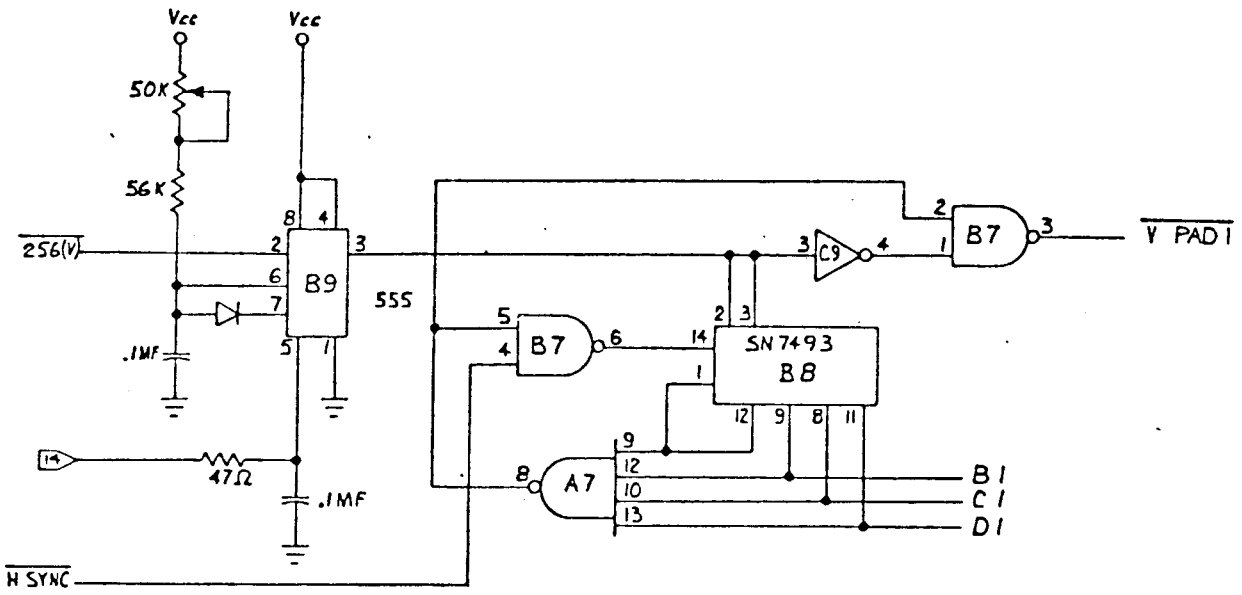
COMPONENT SIDE


HORIZONTAL SYNC ÷454
VERTICAL SYNC ÷261
CLOCK
SN7493 F8
SN7493 F9
SN7493 E8
SN7493 E9
F6
D9
F7
SN7430
E7
D8
E7
G5
H5
H5
H5
F5
F5
G5
A4
E4
1K
Vcc
1(H)
2(H)
4(H)
8(H)
16(H)
32(H)
64(H)
128(H)
256(H)
256(H)
1(V)
2(V)
4(V)
8(V)
16(V)
32(V)
64(V)
128(V)
256(V)
256(V)
H RESET
H RESET
VRST
V RESET
16(H)
64(H)
H BLANKING
H BLANKING
51μs
11μs
V BLANKING
V BLANKING
V SYNC
16(V)
8(V)
4(V)
32(H)
COMP. SYNC
H SYNC
6
13
5
14
8
7
4
10
11
12
2
1
3

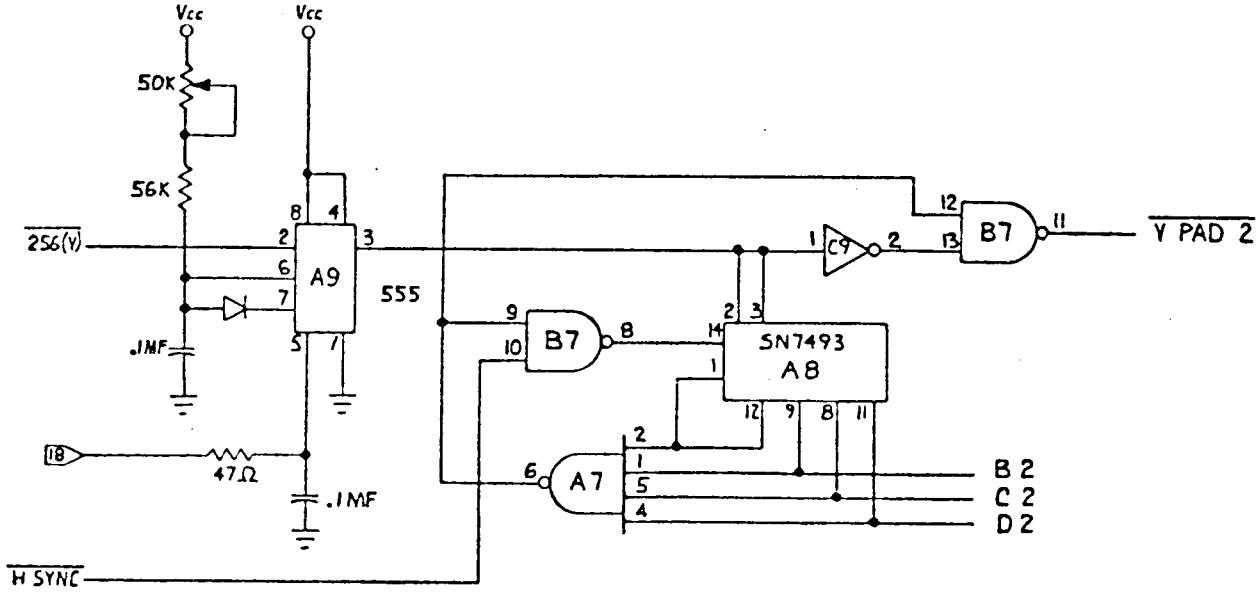
H & V TV-SYNC



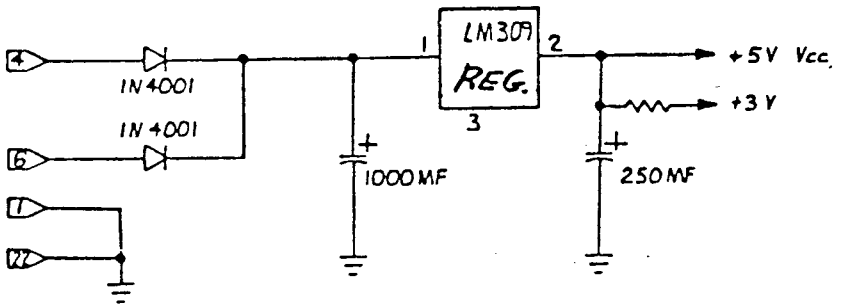
SCORE COUNTERS

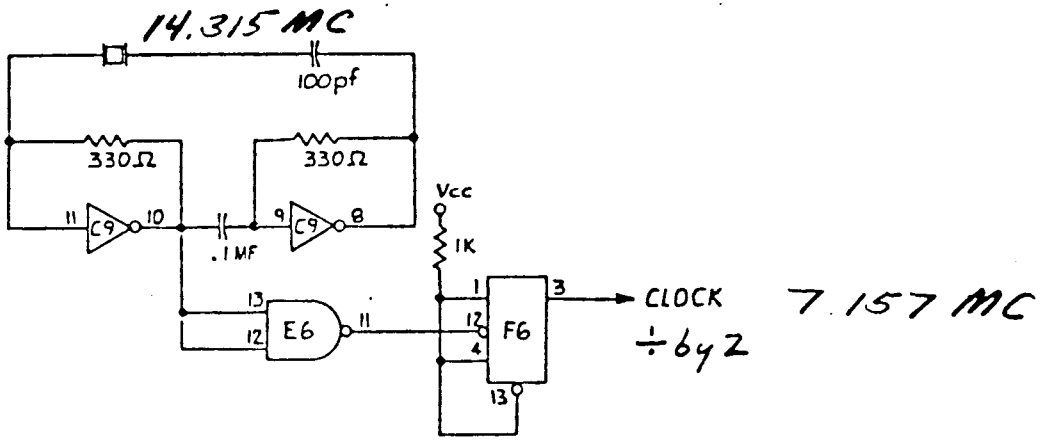


TWO 5K POTS
0-5 VOLTS



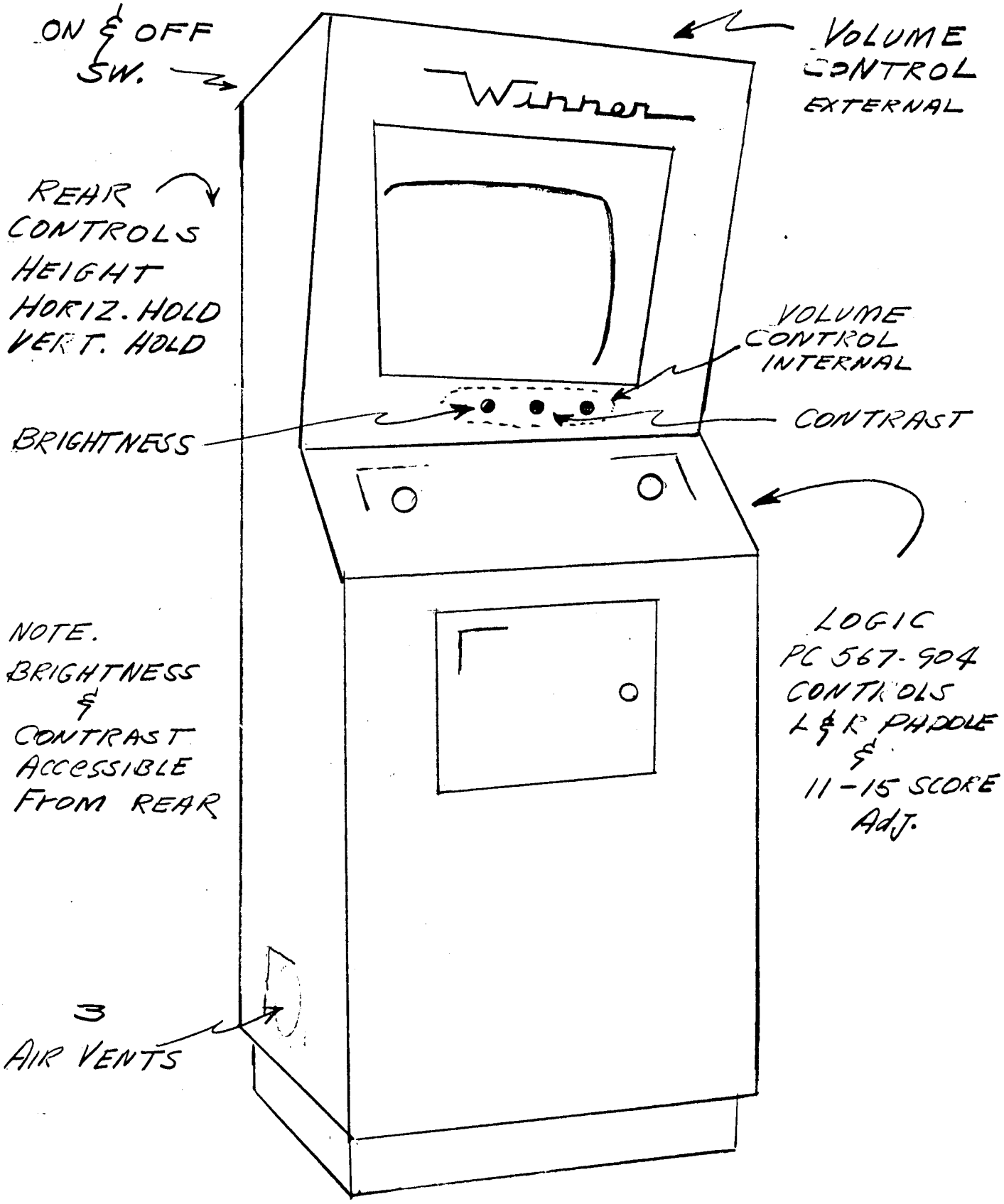
PADDLES 1 & 2





WINNER (2 PLAYER)

POWER & CLOCK



PANASONIC TV TR-216

W I N N E R

Trouble Shooting Game Reset

COMPLAINT:

Game fails to reset properly (T.V. good).

CHECK THE FOLLOWING:

1.) Blown 1 amp slo-blow fuse (115 VAC).

2.) Transformer and associated wiring (MT-37).

3.) Coin switch #1 and #2 de-energizes the game over relay (M 33-1700).

4.) Game over relay switch adjustment (Yellow-Green and White-Blue) or (Black-Green and Orange-Black).

5.) Coin switch #1 and #2 energizes the coin relay.

6.) Open coin relay coil (M 33-1700).

7.) Coin relay switch adjustment (Red and Green or Black).

8.) Game logic unit jack connection pins #2, #4, #6, #7, #10, #12, #15, and #22.

9.) Defective logic unit, (PC 567-904) or game timer unit (PC 567-907).

W I N N E R

TR-216 T.V. Modification

MAKE THE FOLLOWING CHANGES:

1.) Remove UHF and VHF internal-external antenna leads (tape).

2.) Cut one side of R-124 resistor (100 ohm).

3.) Connect TP-4 terminal with Green lead wire to internal UHF antenna. (Left side #3).

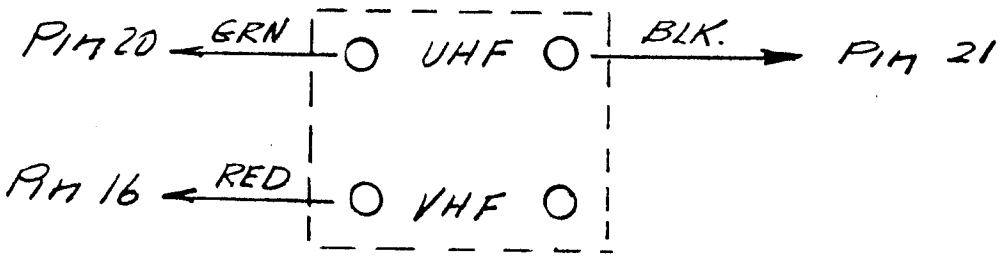
4.) Connect E-3 terminal with Black lead wire to internal UHF antenna. (Right side #4).

5.) Connect Red wire to the White wire of volume control cable.

6.) Connect external volume control in series with T.V. speaker.

NOTE: Steps #1 through #4 eliminate T.V. picture.

Steps #5 and #6 alter T.V. sound.



T.V
ANTENNA TERMINALS
VIEWED FROM REAR

W I N N E R

Packard Bell T.V. Modification 2N621BG ...

Factory Changes

1.) Remove all antenna leads and ground straps.

2.) Cut Brown and Brown-Yellow wires from on and off switch (splice and tape).

3.) Cut speaker leads and remove speaker (mounted externally).

4.) Disconnect 9 and 2 pt. jacks and remove tuner assembly.

5.) Cut green, yellow and ground wires at 9 pt. jack.

6.) Plug in 9 pt. adapter cable jack.

7.) Wire one end of added 3 wire cable to antenna terminals. Left side green then black and red (VHF & UHF).

8.) Solder green of 3 wire cable to terminal TP-3 (logic).

9.) Solder black of 3 wire cable to terminal link (ground).

10.) Solder red of 3 wire cable to yellow removed from 9 pt. jack (audio).

11.) Solder 47K ohm resistor across antenna terminals black and red.

12.) Cut one end of resistor R-119 (1.2k).

13.) Solder adapter cable black-yellow to 4 lug terminal strip with black.

Check T.V. set electrically in game.

TELEDYNE SERVICE
4435 NORTH HARLEM AVENUE
CHICAGO, ILLINOIS 60656

December 4, 1973

POWER SUPPLY

Loss of 22V supply - suspect shorted Y402, open R404 or open R403.
Loss of 130V supply - suspect R403.
Loss of 140V supply - suspect R402.

VERTICAL CIRCUITS

1. Loss of vertical sweep - suspect Q205 first or Q202 second.
2. Bad vertical linearity or insufficient sweep - suspect Q204 first and Q203 second.
3. Uneven vertical sweep (poor linearity) check values or R223 or R226. Adjust rings on yoke.
4. Poor vertical sync. - be sure I.F. AGC is full counter clock wise.
5. Poor vertical linearity could be caused by bad yoke.

HORIZONTAL CIRCUITS

1. No horizontal sweep - suspect R263, R264, R265 or R266. Next suspect Q253. Always check Y253 when Q253 is defective. Suspect Y253 when there is no sweep.
2. If above checks are positive - suspect Q251 then Q252.
3. Poor sync. - be sure I.F. AGC is full counter clockwise.
4. Special horizontal circuit modification. To move picture 3/4 inch to left, put .01 capicator in parallel with C253. Readjust horizontal oscillator frequency with C251.

HIGH VOLTAGE CIRCUITS

1. Y254 is first suspect.
2. Look for trouble in horizontal circuits.

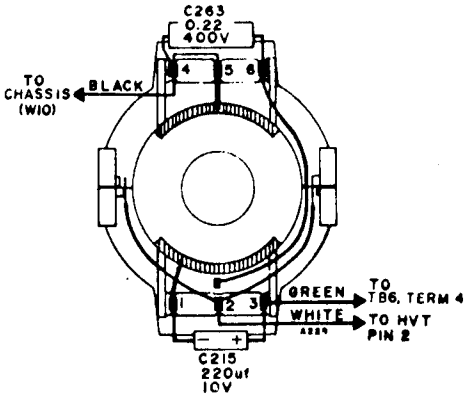
VIDEO CIRCUITS

1. No Video - suspect Q104 first, Q105 second.
2. Check Y102 if no picture.
3. Poor contrast, be sure I.F. AGC is full counter clockwise.

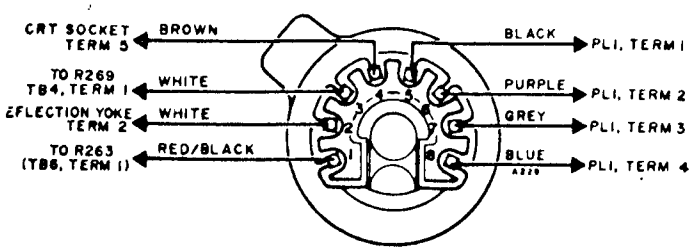
SOUND CIRCUITS

1. No sound - suspect Q301. If Q301 is defective, check R306 also.
2. No sound - suspect R306.
3. No sound - suspect T301.
4. No sound or distorted sound, replace a good audio module.

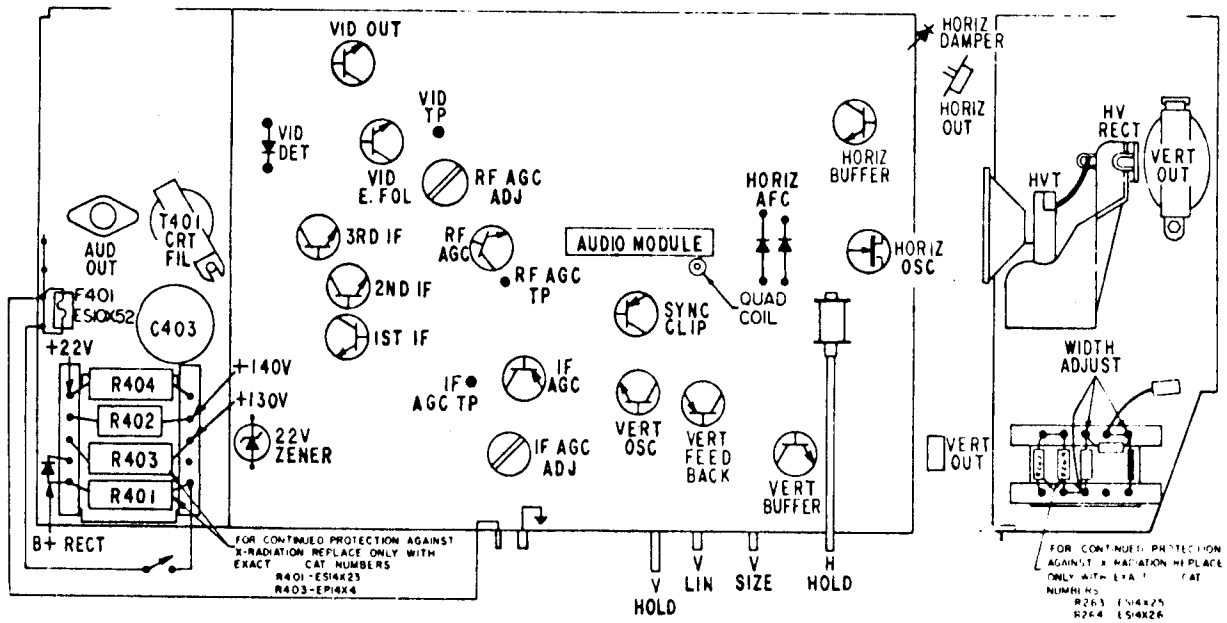
WIRING DIAGRAMS



YOKE



HVT



CHASSIS LAYOUT

CHASSIS REPLACEMENT PARTS LIST

INDICATES PRODUCTION CHANGE

COMMON RESISTORS
(CARBON, ½ WATT, 10%, IN OHMS, UNLESS NOTED)

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
R001	100	R205	47K
R101	10	R206	8.2K
# R102	470	R207	10K
R103	18K, 5%	R208	39K
R104	680	R209	39K
R105	180	R211	820, 5%
R106	390	R212	1.5K
R108	100	R213	10K
R109	680	R214	10K
R110	150	R216	68K
R111	270	R217	200K, 5%
R112	120	R219	3.3K
R113	150	R220	220, 5%
R114	2.2K	R221	1K
R116	8.2K	R222	100, 5%
R117	270	R223	22, 5%
R118	39K	R224	820
R119	1.2K, ¼ W	R225	47K, 2W
R120	560, ¼ W	R226	22, 5%
R121	3.9K, ¼ W	R228	1.5K
R122	1 meg., ¼ W	R229	56K ¼W
R123	82K, 5%	R230	4.7K
R125	180	R250	27K
R126	560	R251	1 meg.
R127	100, 5%	R252	1 meg.
R128	10	R253	27K
R129	8.2K, 2W	R254	3.3 meg.
R131	150K	R255	220K
R132	1.1K, 5%	R256	1K
R133	1K	R257	1.8K
R135	10K	R258	820
R136	100K	R259	1K
R137	8.2K	R260	3.3 meg. 1W
R138	27K	R262	3.3
R140	82	R267	47K
R141	6.8K	R268	27K
R142	56K	R269	100
R143	470	R270	27K
R144	22K	R271	22K
R145	220	R301	390
R146	4.7	R305	100K
R148	560	R306	91, 5%
R149	1.8K	R402	470 2W
R201	470	R405	1.8K, 2W
R203	820K, 5%		
R204	27K, 5%		

POTENTIOMETERS

CAT. NO.	SYMBOL	DESCRIPTION
ES49X60	R139	Control–IF AGC , 2.5K
ES49X60	R147	Control–RF AGC , 2.5K
ES49X61		Control–Triple
	R210	Height , 85K
	R215	Vertical Size , 16K
	R218	Vertical Lin. , 2.5K

SPECIAL RESISTORS

ES41X5	R232	Thermistor Assembly
ES14X27	R233	Thermistor, 650 Ohms, 10%
ES41X5	R261	Thermistor Assembly
ES14X25	R263	Resistor-Wirewound, 27 Ohms, 10%, 5W
ES14X26	R264	Resistor-Wirewound, 75 Ohms, 10%, 5W
ES14X31	R265	Resistor-Wirewound, 27 Ohms, 10%, 2W
ES14X31	R266	Resistor-Wirewound, 27 Ohms, 10%, 2W
ES13X3	R307	VDR(180-200V)
ES14X23	R401	Resistor-Wirewound, 5 Ohms, 10%, 10W
EP14X4	R403	Resistor-Wirewound, 40 Ohms, 10%, 15W
ES14X24	R404	Resistor-Wirewound, 675 Ohms, 5%, 22W

CAPACITORS
(DISC, CERAMIC, UNLESS NOTED)

#	EU18X562	C011	12pf, 10%, 500V, NPO
	ET22X82	C012	820pf, 10%, 500V
	ES31X36	C013	10mf, ELECTRO, +100 -10%, 16V
	ES22X6	C100	1000pf, 20%, 50V, HiK
#	EP18X34	C101	68pf., 5%, 500V, NPO
	EU18X417	C102	15pf, 5%, 500V, N750
	EP18X8	C103	27pf, 5%, 500V, NPO
#	EP18X58	C104	15pf., 5%, 500V
	ES18X43	C106	10,000pf, GMV, 50V
	EU22X91	C107	560pf, 10%, 500V
	ES18X43	C108	10,000pf, GMV, 50V
	ES22X6	C109	1000pf, 20%, 50V, HiK
	ES18X43	C111	10,000pf, GMV, 50V
	EU18X533	C112	150pf, 5%, 500V, NPO
	ES22X6	C113	1000pf, 20%, 50V, HiK
	ES22X6	C114	1000pf, 20%, 50V, HiK
#	ES18X58	C115	3300pf., 20%, 50V
	ES22X6	C116	1000pf, 20%, 50V, HiK
	EU18X541	C117	82pf, 10%, 500V, NPO
	EU18X417	C118	15pf, 5%, 500V, N750
	EP18X47	C119	10pf, 5%, 500V, NPO
	ES22X6	C120	1000pf, 20%, 50V, HiK
	EP18X47	C121	10pf, 5%, 500V, NPO
	EP18X58	C122	15pf, 5%, 500V
	ET18X228	C123	100pf, 10%, 500V, N750
	EP25X29	C124	.1mf, 20%, 50V, (Mylar)
	EU18X533	C125	150pf, 5%, 500V, NPO
	ES31X42	C126	10mf, ELECTRO, +100 -10%, 10V
	ET22X82	C127	820pf, 10%, 500V, HiK
	EP22X4	C128	220pf, 10%, 500V
#	EP25X10	C129	3300pf., 10%, 50V, Paper
	ES25X18	C130	.1mf, 20%, 200V (Mylar)
	ES31X42	C131	10mf, ELECTRO, +100 -10%, 10V
	ES31X45	C132	10mf, ELECTRO, +100 - 10%, 25V
	EP22X4	C133	270pf, 10%, 500V
	EP18X3	C134	470pf, GMV, 1.4KV
	EP18X53	C135	100pf, 20%, 500V, HiK

CHASSIS REPLACEMENT PARTS LIST

CAPACITORS
(DISC, CERAMIC, UNLESS NOTED)

CAT.NO.	SYMBOL	DESCRIPTION
EP18X34	#C136	68pf., 5%, 500V, NPO
EP18X58	#C137	15pf., 5%, 500V
ES22X6	C201	1000pf, 20%, 50V, HiK
ES31X40	C202	.47mf, ELECTRO, +150 - 10%, 50V
ES22X3	C203	3300pf, 20%, 500V
EP18X26	C204	10,000pf, 20%, 500V
EP25X29	C205	.1mf, 20%, 50V (Mylar)
ES25X9	C206	.033mf, 10%, 50V (Mylar)
ES25X17	C207	.047mf, 50V, (Mylar)
ES25X21	C208	.15mf, 10%, 50V, (Mylar)
	C209	
ES31X41	C210	2.2mf, ELECTRO, +150 -10%, 50V
COMMON	C212	.22mf, 10%, 600V (Molded)
EU22X117	C213	1000pf, 20%, 500V, SSHK
ES31X42	C214	10mf, ELECTRO, +100 -10%, 10V
ES31X39	C215	220mf, ELECTRO, +100 -10%, 10V
EU22X127	C216	3300pf, 10%, 500V
EU18X537	C251	47pf, 10%, 500V, N330
EU22X129	C252	2200pf, 10%, 500V, SSHK
ES20X2	C253	470pf, 5%, 500V, Mica
ES25X20	C254	2700pf, 10%, 50V, (Mylar)
EP22X7	C255	5000pf, 10%, 500V
ES25X22	C257	.01mf, 5%, 50V, (Mylar)
ES25X18	C258	.1mf, 20%, 200V, (Mylar)
EU22X129	C259	2200pf, 10%, 500V, SSHK
ES26X1	C261	2700pf, 5%, 1.2KV (Molded)
ES31X44	C262	50mf, ELECTRO, +100 -10%, 150V
ES26X2	C263	.22mf, 10%, 400V, (Molded)
EP25X29	C264	.1mf, 20%, 50V (Mylar)
ET18X329	C265	56pf, 5%, 500V, N750
ES31X43	C266	47mf, ELECTRO, +100 -10%, 16V
EP31X14	C308	1mf, ELECTRO, +150 - 10%, 50V
ET22X22	C309	10,000pf, 20%, 500V
EP25X28	C401	.047mf, 20%, 600V, (Mylar)
EP18X4	C402	1000pf, +80 -20%, 1KV
ES31X38	C403A	300mf, ELECTRO, 175V
	C403B	30mf, ELECTRO, 150V
	C403C	300mf, ELECTRO, 150V
	C403D	200mf, ELECTRO, 50V

COILS AND TRANSFORMERS

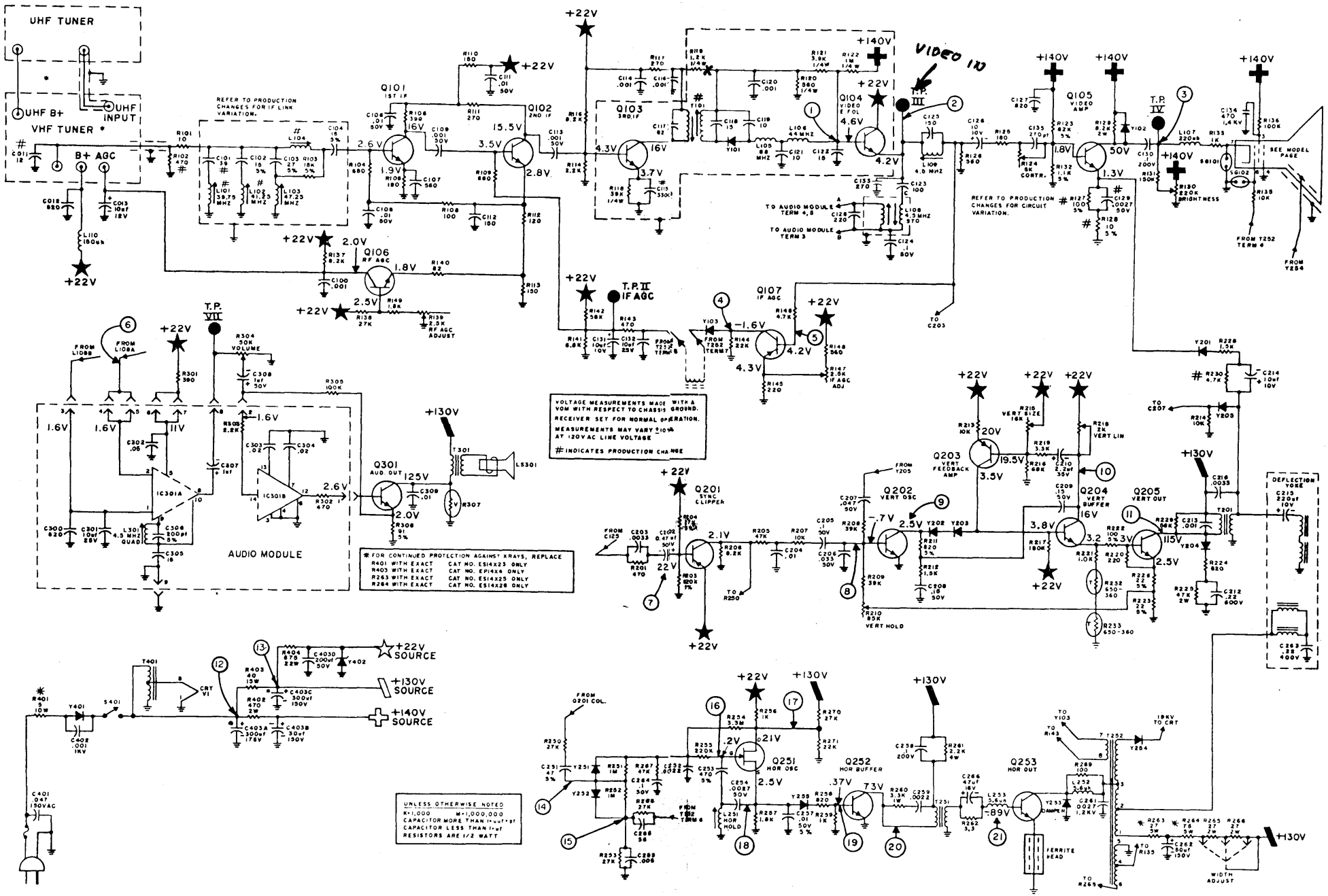
CAT. NO.	SYMBOL	DESCRIPTION
EP36X92	#L101	Coil–Shaping
ES36X83	L102	Coil–41.25 MHz Trap
EP36X13	L103	Coil–47.25 MHz Trap
ES36X109	#L104	Coil - Link Series
ES36X61	L105	Coil–88 MHz Choke ,10uh + 20%
ES36X84	L106	Coil–44 MHz Trap , 35.7uh
ES36X82	L107	Coil–220uh Peaking
ES36X86	L108	Coil–Sound Take-Off
ES36X87	L109	Coil–4.5 MHz Trap
EP36X17	L110	Coil–150uh Peaking Coil
ES36X88	L251	Coil–Horizontal Oscillator
ET36X536	L252	Coil–5.6uh
ET36X536	L253	Coil–5.6uh
S76X6		Deflection Yoke
S56X7	T101	Transformer - Video Detector
S64X11	T201	Transformer - Vertical Output
S64X12	T251	Transformer - Horizontal Buffer
S77X12	T252	Transformer - High Voltage (Complete Asm. Less Rectifier and Anode Lead)
S64X13	T301	Transformer - Audio Output
S64X10	T401	Transformer - CRT Filament

TRANSISTORS & DIODES

CAT. NO.	SYMBOL	DESCRIPTION
ES15X104	Q101	Transistor - 1st I.F.
ES15X105	Q102	Transistor - 2nd I.F.
ES15X106	Q103	Transistor - 3rd I.F.
EP15X1	Q104	Transistor - Video Emitter Follower
ES15X107	Q105	Transistor - Video Amp., w/Spacer
EP15X1	Q106	Transistor - RF AGC
ES15X90	Q107	Transistor - I.F. AGC
ES15X90	Q201	Transistor - Clipper
EP15X1	Q202	Transistor - Vertical Oscillator
ES15X90	Q203	Transistor - Vertical Feedback
EP15X1	Q204	Transistor - Vertical Buffer
ES15X91	Q205	Transistor - Vertical Output, w/Insulator
ES15X92	Q251	Transistor - Horizontal Oscillator
ES15X93	Q252	Transistor - Horizontal Buffer
ES15X94	Q253	Transistor - Horizontal Output, w/Insulator
ES15X95	Q301	Transistor - Audio Output, w/Insulator
EP16X3	Y101	Diode - Video Detector
ES16X30	Y102	Diode - Video Clamping
ES16X27	Y103	Diode - AGC Coupling
ES16X27	Y201	Diode - Vertical Blanking
EP16X3	#Y202	Diode - Vertical Coupling
ES16X27	Y203	Diode - Vertical Coupling
ES57X12	Y204	Diode - Vertical Damper
ES16X27	Y205	Diode - Vertical Feedback
ES16X27	Y251	Diode - Horizontal AFC
ES16X27	Y252	Diode - Horizontal AFC
ES16X28	Y253	Diode - Horizontal Damper
ES57X11	Y254	Rectifier - High Voltage
ES16X27	Y255	Diode - Horizontal Coupling
ES57X12	Y401	Rectifier - B+
ES16X29	Y402	Diode - 22 Volt Zener

MISCELLANEOUS

CAT. NO.	DESCRIPTION
EP8X6	Anode Lead
ES3X30	Clip - Transistor Mtg. (Q205)
ET5X27	Clip - Yoke
EP12X84	Core Half - H. V. Transformer
ES1X29	Eyelet - H. V. Rectifier, Brass, w/Spring
ET3X651	Fastener - Nylon, Transistor Socket
EP10X52	Fuse - 4 Amp, Fast-Blow, Pigtail, 250V (F401)
ES60X3	Heat Sink - Q105
ES60X4	Insulator - Horiz. Output Transistor (Q253)
EP38X6	Interlock Board - AC Power
ES75X1	Module - Audio
ET1X140	Screw - Hex Hd., No. 8-15 x 1/2" Terminal Board Mounting
EP1X7	Screw - Hex Hd., No. 8-15 x 3/8", End Panels to Chassis
ES69X6	Shaft - Nylon, Horizontal Hold
ES34X11	Socket - Transistor (Q301)
ES34X10	Socket - Transistor (Q253)
ES34X12	Socket - CRT
ES34X15	Socket - Transistor (Q205)
ES34X13	Socket - Transistor (Q201, 203, 204, 251)
ES34X14	Socket - Audio Module (Left & Right Halves)
ES41X4	Spark Gap - (SG 101, 102)
ES38X9	Terminal Board - Five Terminals, R263, 264 Mounting
ET2X223	"U" Bolt - H. V. Transformer


UHF TUNER
UHF B+
UHF INPUT
VHF TUNER
B+ AGC
SEE PAGE TWO
REFER TO PRODUCTION CHANGES FOR IF LINK VARIATION.
Q101 1ST IF
Q102 2ND IF
Q103 3RD IF
Q104 VIDEO E FOL
Q105 VIDEO AMP
Q106 RF AGC
Q107 IF AGC
VIDEO IN
T.P. III
T.P. IV
T.P. VII
T.P. II IF AGC
+22V
+140V
+130V
TO AUDIO MODULE TERM 4,5
TO AUDIO MODULE TERM 3
REFER TO PRODUCTION CHANGES FOR CIRCUIT VARIATION.
FROM T252 TERM 4
FROM Y254
SEE MODEL PAGE
AUDIO MODULE
IC301A
IC301B
Q301 AUD. OUT
Q201 SYNC CLIPPER
Q202 VERT OSC
Q203 VERT FEEDBACK AMP
Q204 VERT BUFFER
Q205 VERT OUT
Q251 HOR OSC
Q252 HOR BUFFER
Q253 HOR OUT
DEFLECTION YOKE
FERRITE BEAD
WIDTH ADJUST
19KV TO CRT
+22V SOURCE
+130V SOURCE
+140V SOURCE
VOLTAGE MEASUREMENTS MADE WITH A VOM WITH RESPECT TO CHASSIS GROUND.
RECEIVER SET FOR NORMAL OPERATION.
MEASUREMENTS MAY VARY ±10% AT 120V AC LINE VOLTAGE
INDICATES PRODUCTION CHANGE
* FOR CONTINUED PROTECTION AGAINST X-RAYS, REPLACE
R401 WITH EXACT CAT NO. ES14X23 ONLY
R403 WITH EXACT CAT NO. EP14X4 ONLY
R263 WITH EXACT CAT NO. ES14X25 ONLY
R264 WITH EXACT CAT NO. ES14X28 ONLY
UNLESS OTHERWISE NOTED
K=1,000 M=1,000,000
CAPACITOR MORE THAN 1 mf = mf
CAPACITOR LESS THAN 1 mf = pf
RESISTORS ARE 1/2 WATT