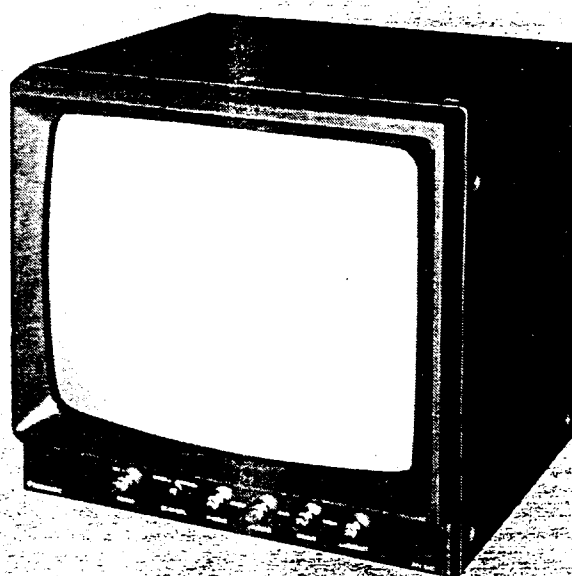


# Service Manual

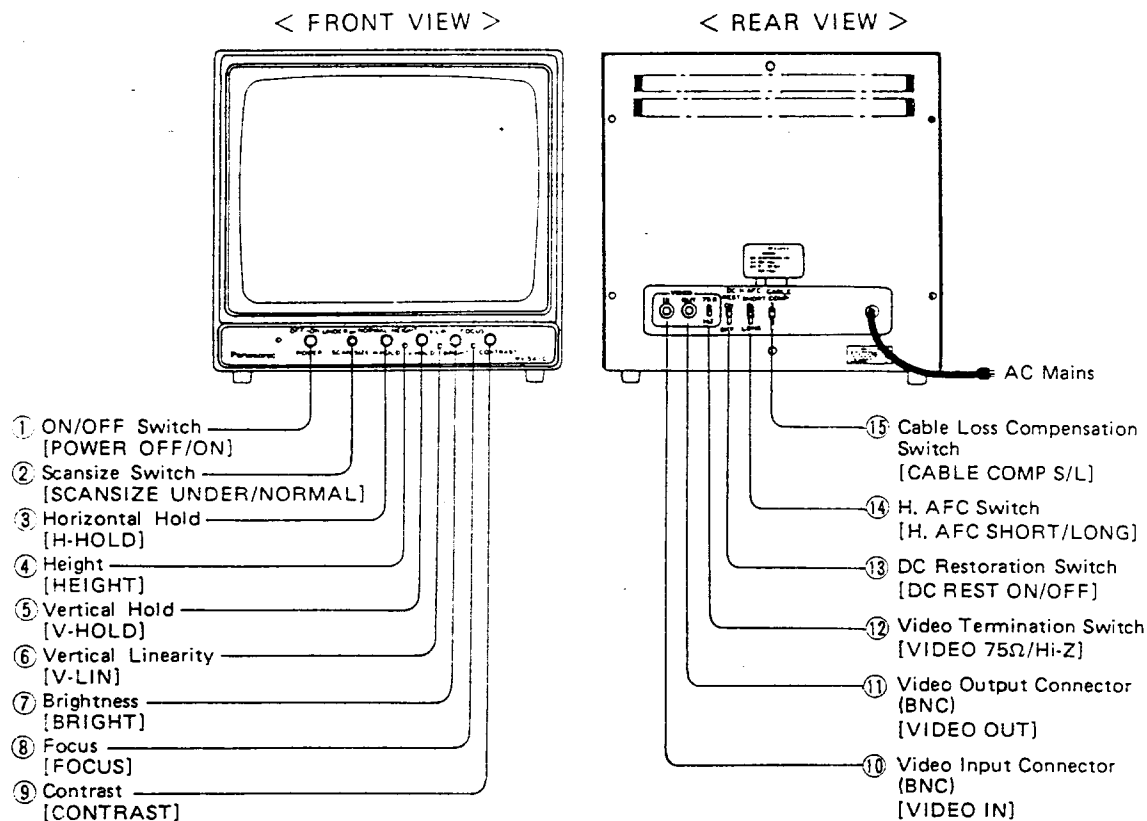
VIDEO MONITOR  
WV-5410



## SPECIFICATIONS

Power Source:	WV-5410 B, WV-5410E/A: 240V AC, 50 Hz WV-5410/C, WV-5410/G: } 220V AC, 50 Hz WV-5410E/C: WV-5410/V: 115/230V AC, 50/60 Hz
Power Consumption:	Approx. 45 watts
Video Input:	1.0Vp-p (0.5 ~ 2.0Vp-p) composite/75 ohm or Hi-Z looping through
Video Frequency Response:	More than 10 MHz
Horizontal Resolution:	More than 350 lines at center
Maximum Video Gain:	42 dB
H. AFC Time Constant:	Short time constant for industrial VTRs
Sweep Linearity:	Less than 5% at overscan.
Sweep Geometry:	Less than 2% at overscan.
Overscanning:	Approx. 5%
Scanning Size:	Overscan or underscan switchable
DC Restoration:	ON or OFF switchable
CRT:	14" diagonal 90° deflection type 340AYB4
High Tension:	DC 15 kV
Rackmounting:	Yes (with optional rack angle brackets)
Allowable Ambient Temperature:	14°F ~ 122°F (-10°C ~ +50°C)
Allowable Ambient Humidity:	Less than 90%
Dimensions:	Approx. 12-5/8" (W) x 12-1/8" (H) x 12-3/16" (D) 320(W) x 308(H) x 309(D) mm
Weight:	Approx. 22 lbs (10 kg)

# MAJOR OPERATING COMPONENTS



## CONTROLS AND THEIR FUNCTIONS

- |   |   |
|---|---|
| <p>① ON/OFF Switch [POWER OFF/ON]<br/>Turns power ON and OFF.</p> <p>② Scansize Switch [SCANSIZE UNDER/NORMAL]<br/>Underscanning is obtained when depressed.</p> <p>③ Horizontal Hold [H-HOLD]<br/>Locks in the picture horizontally.</p> <p>④ Height [HEIGHT]<br/>Adjusts the height of the picture.</p> <p>⑤ Vertical Hold [V-HOLD]<br/>Locks in the picture vertically.</p> <p>⑥ Vertical Linearity [V-LIN]<br/>Adjusts for vertical distortion of the picture.</p> <p>⑦ Brightness Control [BRIGHT]<br/>Turning this control clockwise increases the overall brightness.</p> <p>⑧ Focus [FOCUS]</p> <p>⑨ Contrast Control [CONTRAST]<br/>Turning this control clockwise increases the picture contrast.</p> | <p>⑩ Video Input Connector [VIDEO IN] (BNC)</p> <p>⑪ Video Output Connector [VIDEO OUT] (BNC)</p> <p>⑫ Video Termination Switch [VIDEO 75Ω/Hi-Z]<br/>When bridging or looping through the video signal, set this switch at Hi-Z position, and for other cases this switch should be set at 75Ω position.</p> <p>⑬ DC Restoration Switch [DC REST ON/OFF]<br/>Switch to restore background of picture.</p> <p>⑭ H. AFC Switch [H. AFC SHORT/LONG]<br/>Switch to SHORT position (short H. AFC time constant) for VTR playback.</p> <p>⑮ Cable Loss Compensation Switch [CABLE COMP S/L]</p> |
|---|---|

# ADJUSTMENT

## ■ TEST EQUIPMENT

- TV camera or Video Signal Generator
- Coaxial Cable (Impedance: 75Ω)
- Resolution Chart (YWV1400RB99)

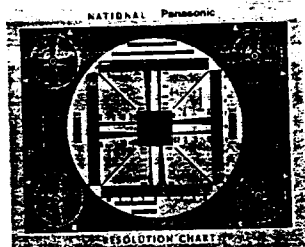


Fig. 1

## ■ SET UP FOR ADJUSTMENT

### 1) Adjustment using TV camera

- Connect the coaxial cable between the TV camera and the input of video monitor.
- Terminate the video input of monitor with 75 ohms.
- Position the resolution chart (YWV1400RB99) in front of the TV camera as shown in Fig. 2.

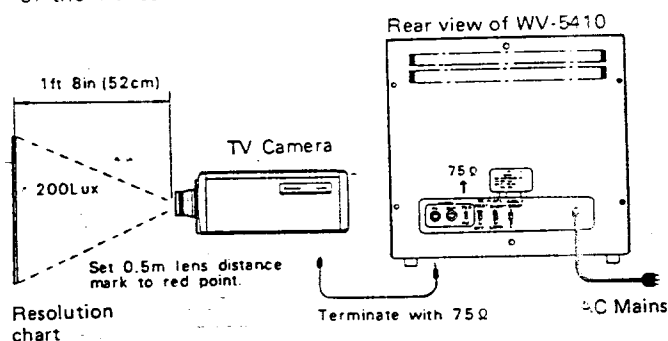


Fig. 2

### 2) Adjustment using video signal generator

- Connect the coaxial cable between the output of video signal generator and the input of video monitor.
- Set the video signal generator so that it provides the cross-hatch signal.

## ■ DISASSEMBLING FOR ADJUSTMENT

- Remove eight screws fixing the upper cover and remove the cover. (Fig. 3)

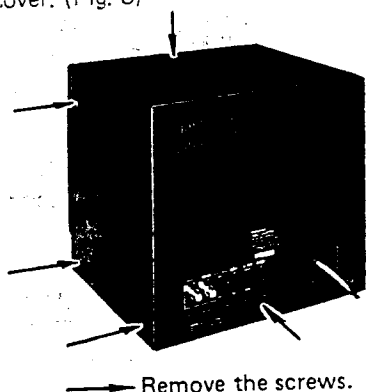


Fig. 3

- Remove the bottom cover by removing the four fixing screws.

## ■ ADJUSTMENT PROCEDURE

- Refer to page 5 for adjusting controls.
- Observe the monitor screen during the adjustment.

### 1. Vertical hold adjustment

Adjusts: VR5 (V. HOLD)  
VR9 (V. HOLD PRESET)

- Set V. HOLD VR5 at mechanical center.
- Adjust V. HOLD PRESET VR9 to hold picture vertically.

### 2. Horizontal hold adjustment

Adjusts: VR6 (H. HOLD)  
VR10 (H. HOLD PRESET)

- Set H. HOLD VR6 at mechanical center.
- Adjust H. HOLD PRESET VR10 to hold picture horizontally.

### 3. Picture tilt adjustment

Adjust: Deflection coil

- Set the scan size switch to the underscan position.
- Loosen the deflection coil holding screw. (Fig. 4)

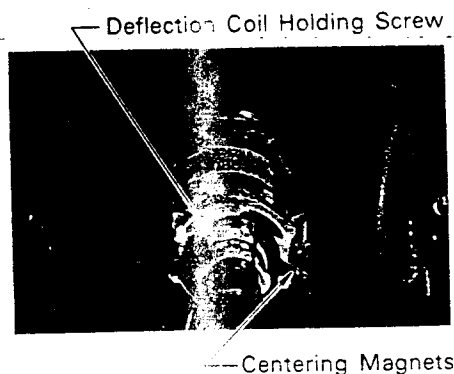


Fig. 4

- Turn the deflection coil until the raster on the monitor screen is straight.
- Carefully tighten the deflection coil holding screw.

### 4. Centering adjustment

Adjust: Centering magnets

- Keep setting the scan size switch to the underscan position.
- Adjust the centering magnets (see Fig. 4) until the raster comes to the center of monitor screen.

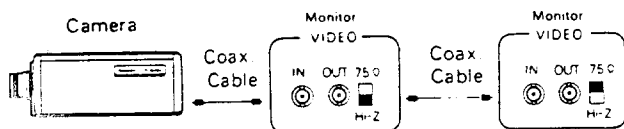
# CONNECTIONS

## Power Cable

1. Keep the monitor Power Switched OFF during installation.
2. Connect the Power Cord to a grounded electrical outlet.

## Video Cable

1. Terminate the camera's output with a 75-ohm resistor at the furthest end of its cable run.
- Always set the last monitor's Termination Switch ⑫ at **75Ω**, and set the Termination Switches ⑫ of intermediate monitors at **Hi-Z**.



- Use 75-ohm coaxial cable. (3C-2V, 5C-2V, 7C-2V, 10C-2V)
- 2. Up to 10 monitors can be hooked up in this configuration before signal loss occurs. Total cable length should not exceed 500 feet. (200 m)
- 3. Wiring Precautions.
  - Do not bend coaxial cable into a curve whose radius is smaller than 10 times its diameter.
  - Never staple the cable — not even with circular staples.
  - Never crush or pinch the cable.

All these will change the impedance of the cable and cause poor picture quality.

## Cable Loss Compensation Switch

1. Normally set this switch at **S** position.



2. When the cable is so long that the resolution deteriorates, select the appropriate coaxial cable and switch position according to the cable length as shown in the table.

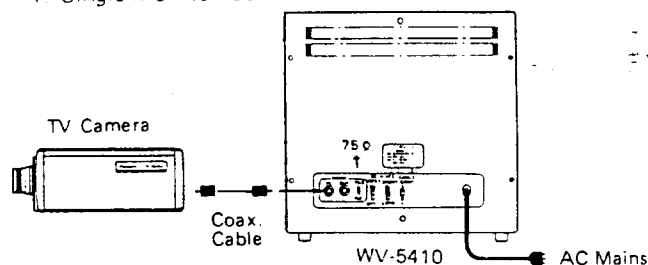
(Unit: m)

Position of Switch \ Kinds of Cable	3C-2V	5C-2V	7C-2V	10C-2V
S (Short)	250	500	600	800
L (Long)	500	750	1000	1250

3. A thicker coaxial cable is preferred and switch position **S** is most appropriate.
4. If many monitors are to be bridge-connected, choose the cable by the distance to the last monitor, and select the switch position of each monitor so that the best picture quality can be obtained.

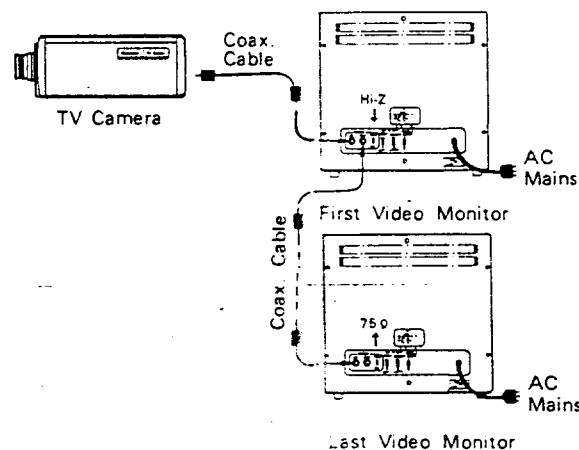
## System Connections

### 1. Single Monitor Connection



- Connect the Video Input Connector ⑩ on the monitor to the Video Out Terminal of the camera with 75-ohm coaxial cable.
- Set the Video Termination Switch ⑫ at **75Ω** position.

### 2. Multiple Monitor Connection



- Connect the Video Input Connector ⑩ on the video monitor to the Video Out Terminal of the camera with 75-ohm coaxial cable.
- Connect the Video Output Connector ⑪ on the first monitor to the Video Input Connector ⑩ on the second monitor with 75-ohm coaxial cable continue until all monitors are connected.
- Set the Video Termination Switch ⑫ of the first and intermediate monitors at **Hi-Z** position. Then set the Video Termination Switch ⑫ of the last monitor at **75Ω** position.

#### 5. Horizontal width adjustment

Adjust: L6 (H-WIDTH)

- Set the scan size switch to the normal (overscan) position.
- Adjust H-WIDTH L6 to obtain full horizontal width plus a little overscanning.

#### 6. Vertical height and linearity adjustment

Adjusts: VR8 (HEIGHT)  
VR7 (V-LIN)

- Adjust HEIGHT VR8 and V-LIN VR7 so that the circle in the chart is nearly a true circle.

#### 7. Sub-brightness adjustment

Adjusts: VR1 (CONTRAST)  
VR4 (BRIGHTNESS)  
VR3 (SUB-BRIGHTNESS)

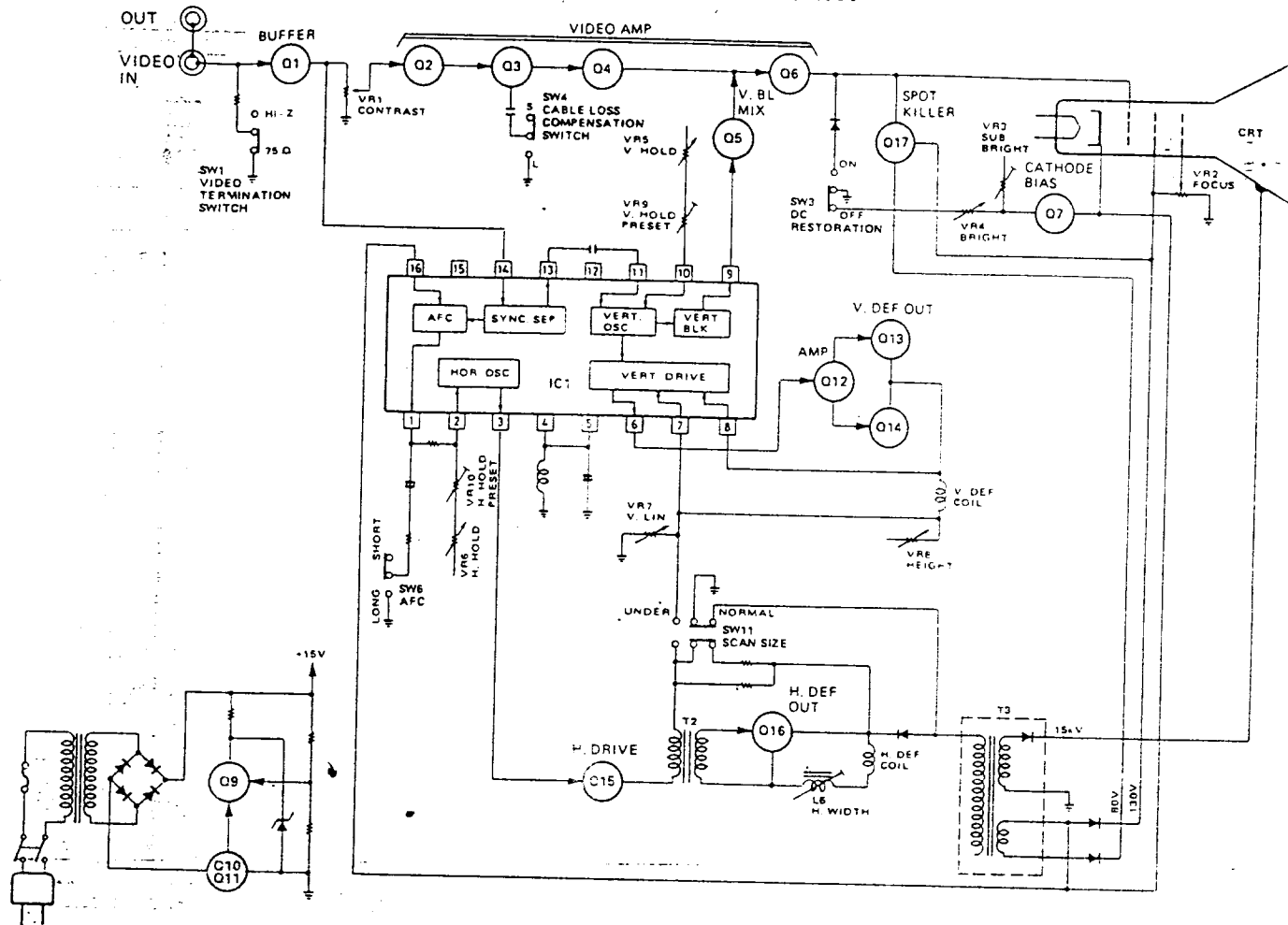
- Set the DC restoration switch to the ON position.
- Turn CONTRAST VR1 fully counterclockwise.
- Turn BRIGHTNESS VR4 fully clockwise, and then turn it back 180 degrees counterclockwise.
- Adjust SUB-BRIGHTNESS VR3 so that the raster will just appear.

#### 8. Focus adjustment

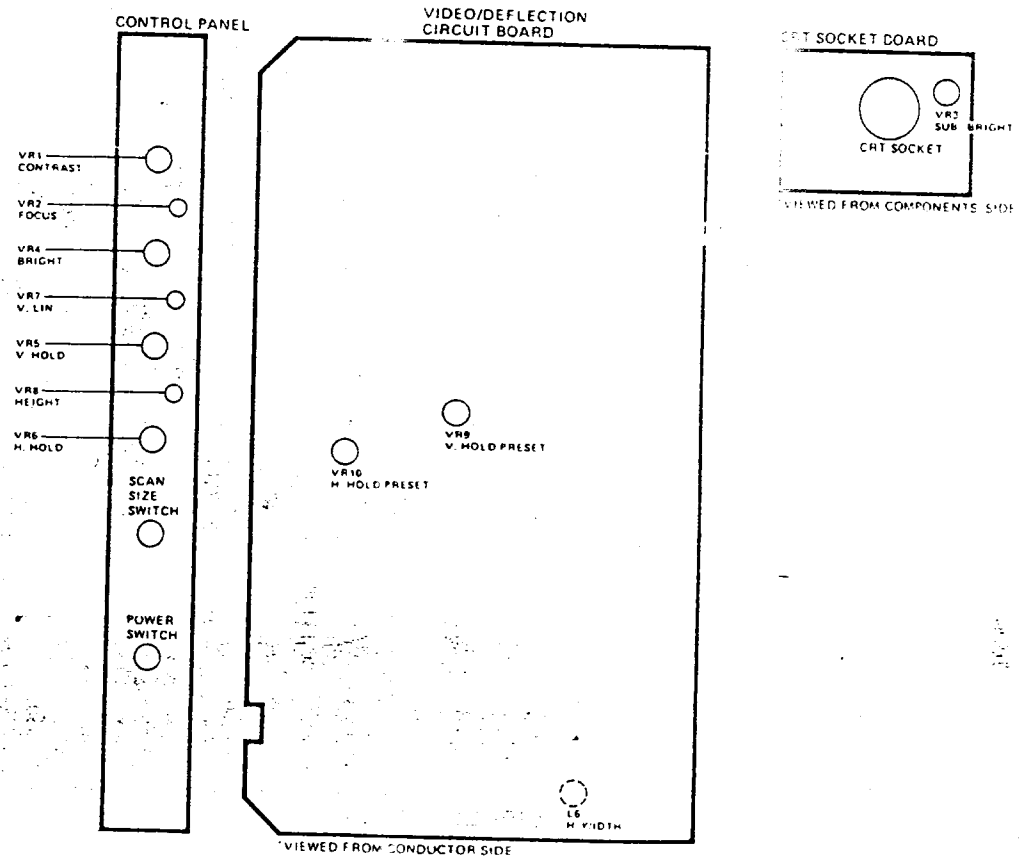
Adjust: VR2 (FOCUS)

- Adjust VR2 for best focus in the monitor.

# BLOCK DIAGRAM



## LOCATION OF ADJUSTING CONTROLS



# REPLACEMENT PARTS LIST

## Important Notice

- Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- Components identified by \* mark are new parts used from this model.

MODEL WV-5410

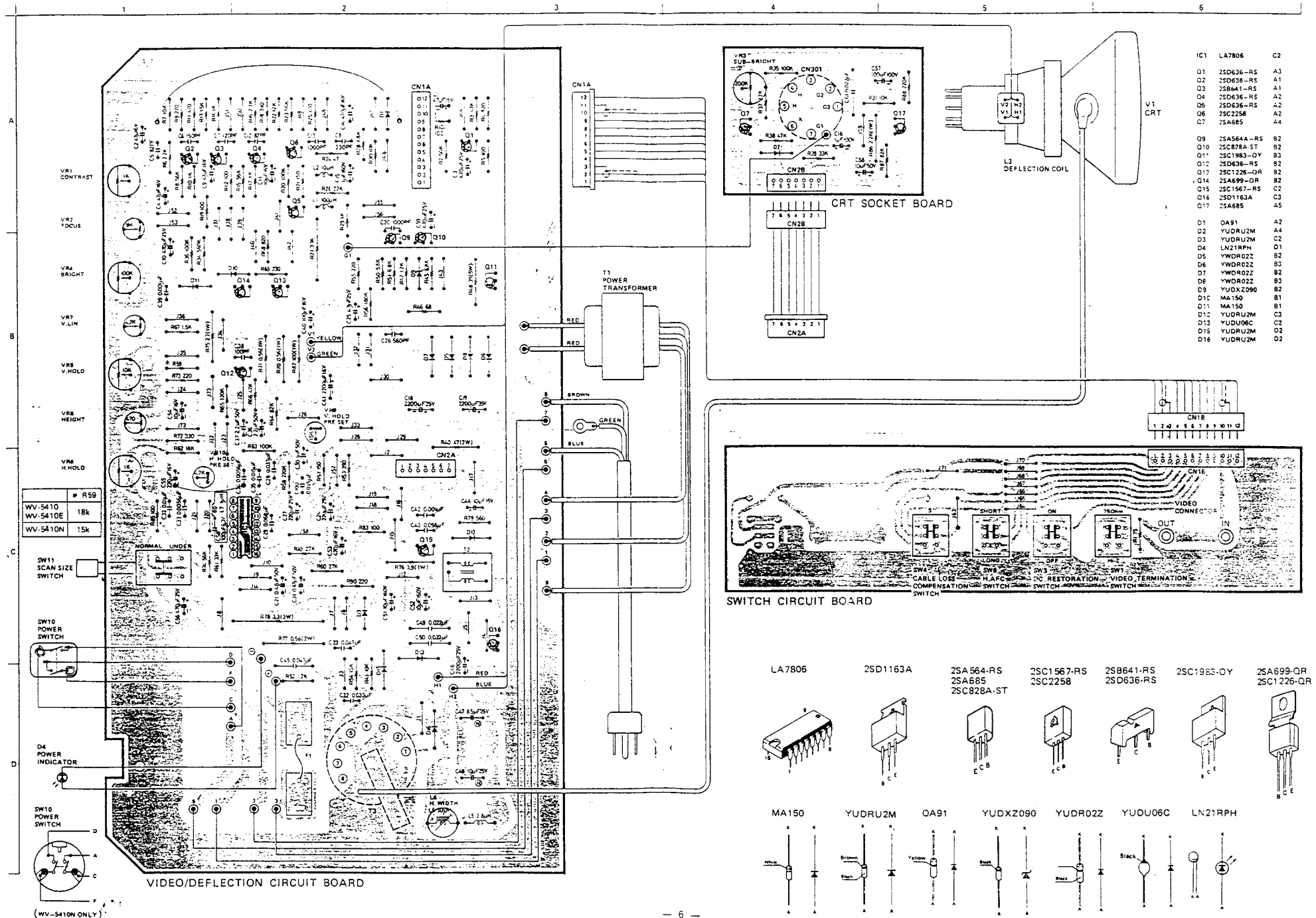
SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
<b>MISCELLANEOUS</b>			Q6	2SC2258	Transistor
V1	340AYB4	Cathode Ray Tube	Q9	2SA564A-RS	Transistor
L3	YWYS32428B	Deflection Coil	Q10	2SC828A-ST	Transistor
T1	YFPT66E005	Power, Transformer for WV-5410/BCG, WV-5410E/AC	Q11	2SC1983-OY	Transistor
	YFPT66G006	Power, Transformer for WV-5410N	Q12	2SD636-RS	Transistor
	YWHB-3-08	AC Power Cord for WV-5410/B	Q13	2SC1226-QR	Transistor
	YWCE0099-08	AC Power Cord for WV-5410/C	Q14	2SA699-QR	Transistor
	YWM0099-08	AC Power Cord for WV-5410/G	Q15	2SC1567-RS	Transistor
E1	YWRPLTSA-8	AC Power Cord for WV-5410E/A	Q16	2SD1163A	Transistor
	YWCE0099-08F	AC Power Cord for WV-5410E/C			
	YFMTSA-3	AC Power Cord for WV-5410N	D1	OA91	Diode
CN1, 2	YWBNC-R	BNC Connector	D3	YUDRU2M	Diode
M1	*YFV5BA0003A1	Front Escutcheon	D4	LN21 RPH	LED
M2	*YFV5WA0010A3	Operation Panel	D5~8	YWDR02Z	Diode
M3	YWV5350HR01	Knob A (x4)	D9	YUDXZ090	Diode
M4	YWV5350HR02	Knob B			
M5	YWV5350HR03A	Push Knob	D10, 11	MA150	Diode
			D12	YUDRU2M	Diode
M6	*YFV2CA0005A4	Nut Plate A (x2)	D13	YUDU06C	Diode
M7	*YFV2CA0006A4	Nut Plate B	D15, 16	YUDRU2M	Diode
M8	*YFV2KA0007A3	Mounting Bracket (x2)	R2	ERD25FJ563	Carbon $\star$ 56k $\Omega$ $\frac{1}{4}$ W
M9	*YFV5EA0004A3	Bottom Plate			
M10	*YFV4JA0003A4	CRT Ground Spring	R3	ERD25FJ473	Carbon 47k $\Omega$ $\frac{1}{4}$ W
			R4	ERD25FJ821	Carbon 820 $\Omega$ $\frac{1}{4}$ W
M11	*YFV5KA0005A2	Upper Cover	R5	ERD25FJ101	Carbon 100 $\Omega$ $\frac{1}{4}$ W
M12	*YFV5EA0003A3	Rear Plate	R6	ERD25FJ222	Carbon 2.2k $\Omega$ $\frac{1}{4}$ W
M13	*YFV2KA0009A2	Rear Chassis	R7	ERD25FJ103	Carbon 10k $\Omega$ $\frac{1}{4}$ W
M14	*YFV2VA0001A4	Ground Plate	R8	ERD25FJ563	Carbon 56k $\Omega$ $\frac{1}{4}$ W
M15	YWS-WB02	Rubber Foot (x4)	R9	ERD25FJ271	Carbon 270 $\Omega$ $\frac{1}{4}$ W
			R10	ERD25FJ102	Carbon 1k $\Omega$ $\frac{1}{4}$ W
	YWSR6W-1	Cord Clamp for WV-5410/BCG, WV-5410E/AC	R11	ERD25FJ471	Carbon 470 $\Omega$ $\frac{1}{4}$ W
M16	YWSR5N4	Cord Clamp for WV-5410N	R12	ERD25FJ101	Carbon 100 $\Omega$ $\frac{1}{4}$ W
	*YFV7QA0016B4	Main Label for WV-5410/BCG	R13	ERD25FJ152	Carbon 1.5k $\Omega$ $\frac{1}{4}$ W
M17	*YFV7QA0019B4	Main Label for WV-5410E/AC	R14	ERD25FJ102	Carbon 1k $\Omega$ $\frac{1}{4}$ W
	*YFV7QA0018B4	Main Label for WV-5410N	R15	ERD25FJ563	Carbon 56k $\Omega$ $\frac{1}{4}$ W
			R16	ERD25FJ272	Carbon 2.7k $\Omega$ $\frac{1}{4}$ W
M18	YWS-CULRB08	Caution Label	R17	ERD25FJ102	Carbon 1k $\Omega$ $\frac{1}{4}$ W
M19	*YWV1000NUR2	Voltage Label for WV-5410N	R18	ERD25FJ391	Carbon 390 $\Omega$ $\frac{1}{4}$ W
M20	*YFV7MA0002A4	High Voltage Fuse Label	R19	ERD25FJ101	Carbon 100 $\Omega$ $\frac{1}{4}$ W
M21	YW-B-UR01A	Country Origin Label for WV-5410/B			
M22	YW8-NBT	National Label for WV-5410N	R20	ERD25FJ104	Carbon 100k $\Omega$ $\frac{1}{4}$ W
			R21	ERD25FJ151	Carbon 150 $\Omega$ $\frac{1}{4}$ W
M23	YWS-XEGRB03A	Caution Label for WV-5410/G	R22	ERD25FJ123	Carbon 12k $\Omega$ $\frac{1}{4}$ W
			R23	ERD25FJ563	Carbon 56k $\Omega$ $\frac{1}{4}$ W
			R24	ERD25FJ470	Carbon 47 $\Omega$ $\frac{1}{4}$ W
			R25	ERD25FJ471	Carbon 470 $\Omega$ $\frac{1}{4}$ W
			R26	ERD25FJ223	Carbon 22k $\Omega$ $\frac{1}{4}$ W
			R27	ERG2ANJ332	Metal 3.3k $\Omega$ 2W
			R28	ERD25FJ683	Carbon 68k $\Omega$ $\frac{1}{4}$ W
			R29	ERD25FJ102	Carbon 1k $\Omega$ $\frac{1}{4}$ W
			R30	ERD25FJ103	Carbon 10k $\Omega$ $\frac{1}{4}$ W
			R34	ERD25FJ564	Carbon 560k $\Omega$ $\frac{1}{4}$ W
			R36	ERD25FJ104	Carbon 100k $\Omega$ $\frac{1}{4}$ W
			R40	ERG2ANJ470	Metal 47 $\Omega$ 2W
<b>YFVPKB5410EA</b>					
<b>VIDEO/DEFLECTION CIRCUIT BOARD</b>					
PCB001	*YFVPKB5410EA	Printed Circuit Board Assembly for WV-5410/BCG, WV-5410E/AC			
	*YFVPKB5410NA	Printed Circuit Board Assembly for WV-5410N			
IC1	LA7806	IC			
Q1, 2	2SD636-RS	Transistor			
Q3	2SB641-RS	Transistor			
Q4, 5	2SD636-RS	Transistor			

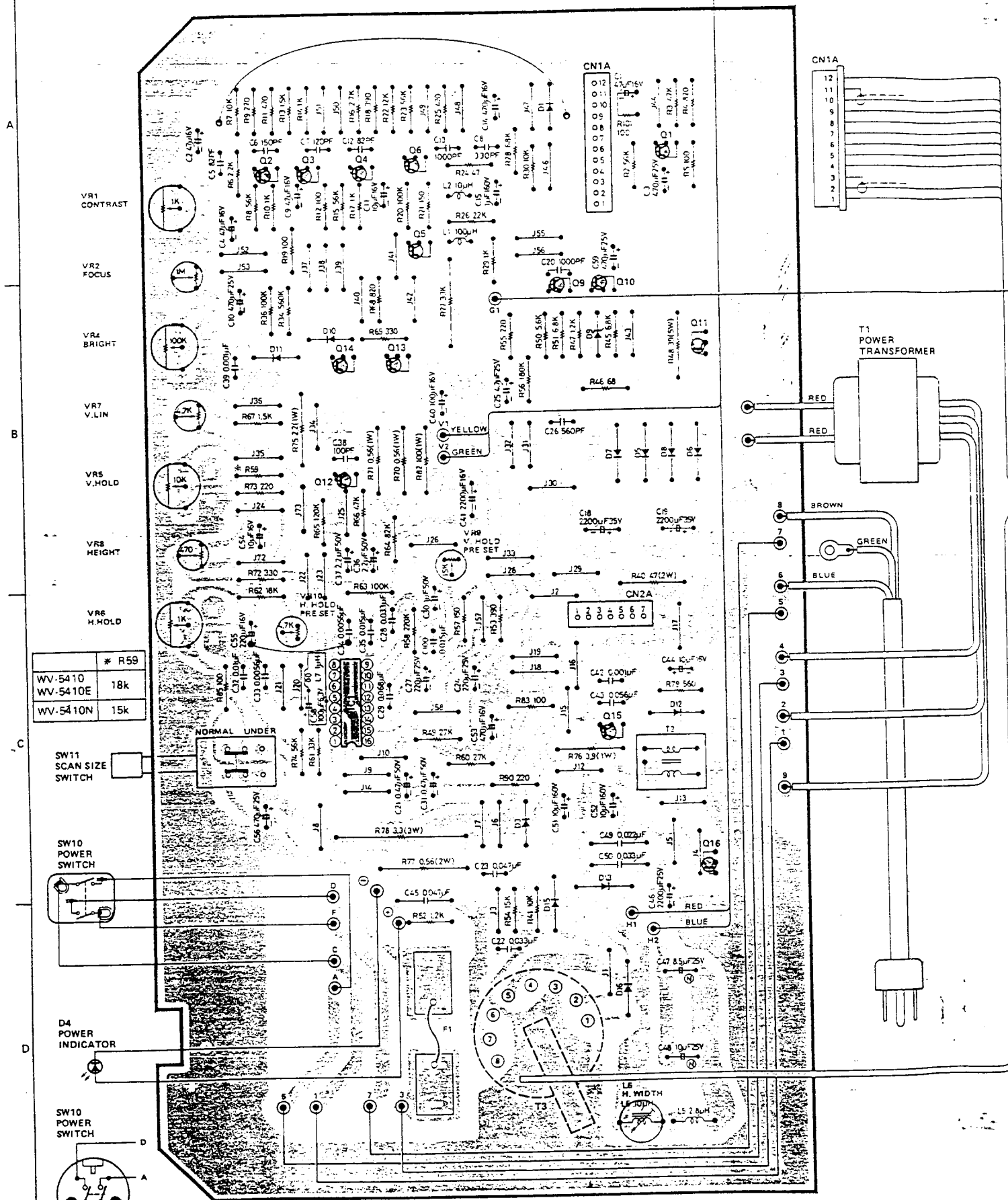
SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
R41	ERD25FJ103	Carbon 10k $\Omega$ 1/4W	C8	ECKR1H331KB	Ceramic 330PF 50V
R43	ERD25FJ563	Carbon 56k $\Omega$ 1/4W for WV-5410/BCG, WV-5410E/AC	C9	ECEA1CS470	Electrolytic 47 $\mu$ F 16V
R45	ERD25FJ682	Carbon 6.8k $\Omega$ 1/4W	C10	ECEA1ES471	Electrolytic 470 $\mu$ F 25V
R46	ERD25FJ680	Carbon 68 $\Omega$ 1/4W	C11	ECEA1CS100	Electrolytic 10 $\mu$ F 16V
R47	ERD25FJ122	Carbon 1.2k $\Omega$ 1/4W	C12	ECKR1H820J	Ceramic 82PF 50V
R48	ERF5ZJ390	Wire Wound 39 $\Omega$ 5W	C13	ECKR1H102KB	Ceramic 1000PF 50V
R49	ERD25FJ273	Carbon 27k $\Omega$ 1/4W	C14	ECEA1CS471	Electrolytic 470 $\mu$ F 16V
R50	ERO25CKF5601	Metal 5.6k $\Omega$ 1/4W	C15	ECEA2CS010	Electrolytic 1 $\mu$ F 100V
R51	ERO25CKF6801	Metal 6.8k $\Omega$ 1/4W	C17	ECEA1CS470	Electrolytic 47 $\mu$ F 16V
R52	ERD25FJ122	Carbon 1.2k $\Omega$ 1/4W	C18, 19	ECEA1VS222E	Electrolytic 2200 $\mu$ F 35V
R53	ERD25FJ391	Carbon 390 $\Omega$ 1/4W	C20	ECKR1H102KB	Ceramic 1000PF 50V
R54	ERD25FJ153	Carbon 15k $\Omega$ 1/4W	C21	ECEA1HSR47	Electrolytic 0.47 $\mu$ F 50V
R55	ERD25FJ221	Carbon 220 $\Omega$ 1/4W	C22	ECQV05333JZ	Plastic 0.033 $\mu$ F 50V
R56	ERD25FJ184	Carbon 180k $\Omega$ 1/4W	C23	ECQV05473JZ	Plastic 0.047 $\mu$ F 50V
R57	ERD25FJ151	Carbon 150 $\Omega$ 1/4W	C24	ECEA1ES221	Electrolytic 220 $\mu$ F 25V
R58	ERD25FJ224	Carbon 220k $\Omega$ 1/4W	C25	ECEA1ES4R7	Electrolytic 4.7 $\mu$ F 25V
R59	ERD25FJ153	Carbon 15k $\Omega$ 1/4W	C26	ECCR1H561J	Ceramic 560PF 50V
R60	ERD25FJ273	Carbon 27k $\Omega$ 1/4W	C27	ECEA1ES221	Electrolytic 220 $\mu$ F 25V
R61	ERD25FJ333	Carbon 33k $\Omega$ 1/4W	C28	ECQV05333JZ	Plastic 0.033 $\mu$ F 50V
R62	ERD25FJ183	Carbon 18k $\Omega$ 1/4W	C29	ECQV05683JZ	Plastic 0.068 $\mu$ F 50V
R63	ERD25FJ104	Carbon 100k $\Omega$ 1/4W	C30	ECEA50V1T	Electrolytic 1 $\mu$ F 50V
R64	ERD25FJ823	Carbon 82k $\Omega$ 1/4W	C31	ECEA1HSR47	Electrolytic 0.47 $\mu$ F 50V
R65	ERD25FJ154	Carbon 150k $\Omega$ 1/4W	C32	ECQV05103JZ	Plastic 0.01 $\mu$ F 50V
R66	ERD25FJ473	Carbon 47k $\Omega$ 1/4W	C33, 34	ECQP1562JZ	Plastic 5600PF 100V
R67	ERD25FJ152	Carbon 1.5k $\Omega$ 1/4W	C35	ECQV05153JZ	Plastic 0.015 $\mu$ F 50V
R68	ERD25FJ821	Carbon 820 $\Omega$ 1/4W	C36	ECEA50V2R2T	Electrolytic 2.2 $\mu$ F 50V
R69	ERD25FJ331	Carbon 330 $\Omega$ 1/4W	C37	ECEA1HS2R2	Electrolytic 2.2 $\mu$ F 50V
R70, 71	ERX1ANJR56	Metal 0.56 $\Omega$ 1W	C38	ECKR1H101KB	Ceramic 100PF 50V
R72	ERD25FJ331	Carbon 330 $\Omega$ 1/4W	C39	ECQP1102JZ	Plastic 1000PF 100V
R73	ERD25FJ221	Carbon 220 $\Omega$ 1/4W	C40	ECEA1CS101	Electrolytic 100 $\mu$ F 16V
R74	ERD25FJ563	Carbon 56k $\Omega$ 1/4W	C41	ECEA1CS222	Electrolytic 2200 $\mu$ F 16V
R75	ERX1ANJ2R2	Metal 2.2 $\Omega$ 1W	C42	ECQP1102JZ	Plastic 1000PF 100V
R76	ERX1ANJ3R9	Metal 3.9 $\Omega$ 1W	C43	ECQV05563JZ	Plastic 0.056 $\mu$ F 50V
R77	ERX2ANJR56	Metal 0.56 $\Omega$ 2W	C44	ECEA1CS100	Electrolytic 10 $\mu$ F 16V
R78	ERX3ANJ3R3	Metal 3.3 $\Omega$ 3W	C45	ECQM2473KZ	Plastic 0.047 $\mu$ F 200V
R79	ERD25FJ561	Carbon 560 $\Omega$ 1/4W	C46	ECEA1ES222	Electrolytic 2200 $\mu$ F 25V
R82	ERG1ANJ101	Metal 68 $\Omega$ 1W	C47	ECEA25W8R5Z	Electrolytic 8.5 $\mu$ F 25V
R83, 85	ERD25FJ101	Carbon 100 $\Omega$ 1/4W	C48	ECEA25W10Z	Electrolytic 10 $\mu$ F 25V
R89	ERD25FJ473	Carbon 47k $\Omega$ 1/4W	C49	ECQM2223KZ	Plastic 0.022 $\mu$ F 200V
R90	ERD25FJ221	Carbon 220 $\Omega$ 1/4W	C50	ECQM2333KZ	Plastic 0.033 $\mu$ F 200V
R100	ERG3ANJ331	Metal 330 $\Omega$ 3W	C51, 52	ECEA2CS100	Electrolytic 10 $\mu$ F 100V
R101	ERD25FJ101	Carbon 100 $\Omega$ 1/4W	C53	ECEA1CS471	Electrolytic 470 $\mu$ F 16V
VR1	EVHOTAS20B13	Variable Resistor 1k $\Omega$	C54	ECEA1CS100	Electrolytic 10 $\mu$ F 16V
VR2	SR29D1MB	Semi Fixed Resistor 1M $\Omega$	C55	ECEA1CS221	Electrolytic 220 $\mu$ F 16V
VR4	EVHOTAS20B15	Variable Resistor 100k $\Omega$	C56	ECEA1ES471	Electrolytic 470 $\mu$ F 25V
VR5	EVHOTAS20B14	Variable Resistor 10k $\Omega$	C58	ECEA0JK101	Electrolytic 100 $\mu$ F 6.3V
VR6	EVHOTAS20B13	Variable Resistor 1k $\Omega$	C59	ECEA1ES471	Electrolytic 470 $\mu$ F 25V
VR7	YFSR29D4R7KB	Semi Fixed Resistor 4.7k $\Omega$	C60	ECEA1ES101	Electrolytic 100 $\mu$ F 25V
VR8	YWSR29D470B	Semi Fixed Resistor 470 $\Omega$	C100	ECQV05153JZ	Plastic Capacitor 0.015 $\mu$ F 50V
VR9	YFH0651A15K	Variable Resistor 15k $\Omega$	L1	YWFL5H-101K	Coil 100 $\mu$ H
VR10	YWH0651A4R7K	Semi Fixed Resistor 4.7k $\Omega$	L2	YWFL5H100K	Coil 10 $\mu$ H
C2	ECEA1CS470	Electrolytic 47 $\mu$ F 16V	L5	YFTLH2R8L	Coil 2.8 $\mu$ H
C3	ECEA1ES471	Electrolytic 470 $\mu$ F 25V	L6	YFTLH6ROW	Coil 6 $\mu$ H
C4	ECEA1CS470	Electrolytic 47 $\mu$ F 16V	L7	YFLS1R0J	Coil 1 $\mu$ H
C5	ECCR1H820J	Ceramic 82PF 50V	T2	YFTLH3412K	H. Drive Transformer
C6	ECKR1H151KB	Ceramic 150PF 50V	T3	ETF35L29V	Flyback Transformer
C7	ECKR1H121KB	Ceramic 120PF 50V	SW10	EVQ3BMK20	Power Switch for WV-5410/BCG, WV-5410E/AC
				EVQBA8K20	Power Switch for WV-5410N, WV-5410N/A
			SW11	YW1F01AC312	Scan Size Switch
			F1	YFTS400MA	1A Fuse
			E2	YWSN5053	Fuse Holder (x2)



SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
E3	YFSN005001	LED Holder			
CN1A-JM	EMCS1250M	12 pin Jack Male			
CN1A-PF	EMCM1230B32V	12 pin Connecting Wire Ass'y for CN1A and CN1B			
CN2A	EMCL0730D35V	7 pin Connecting Wire Ass'y for CN2A and CN2B			
M24	YFV2CA0007A4	Mounting Bracket for Switch			
M25	YFV7DA0003B4	Heat Sink A			
M26	YFV7DA0004A4	Heat Sink B			
<b>YFVPKC5410JA</b> <b>SWITCH CIRCUIT BOARD</b>					
PCB002	YFVPKC5410JA	Printed Circuit Board Assembly			
R1	ERD25FJ750	Carbon 75 $\Omega$ 1/4W			
SW1,3,4,6	YWSSC-322A	Slide Switch			
CN1B-PF	EMCM1230B32V	Connecting Wire Ass'y for CN1B and CN1A			
<b>YFVPKD5410PA</b> <b>CRT SOCKET BOARD</b>					
PCB003	YFVPKD5410PA	Printed Circuit Board Assembly			
Q7, 17	2SA685	Transistor			
D2	YUDRU2M	Diode			
R31	ERD25FJ103	Carbon 10k $\Omega$ 1/4W			
R35	ERD25FJ104	Carbon 100k $\Omega$ 1/4W			
R37	ERD25FJ273	Carbon 27k $\Omega$ 1/4W			
R38	ERD25FJ473	Carbon 47k $\Omega$ 1/4W			
R39	ERD25FJ333	Carbon 33k $\Omega$ 1/4W			
R86	ERX1ANJ222	Metal 2.2k $\Omega$ 1W			
R87	ERD25FJ823	Carbon 82k $\Omega$ 1/4W			
R88	ERD25FJ224	Carbon 220k $\Omega$ 1/4W			
VR3	EVLS0AA00B25	Variable Resistor 200k $\Omega$			
C16	ECEA2CS010	Electrolytic 1 $\mu$ F 100V			
C57	ECEA2AS101	Electrolytic 100 $\mu$ F 100V			
C58	ECEA1HS100	Electrolytic 10 $\mu$ F 50V			
C61	ECQM2223KZ	Plastic Capacitor 0.022 $\mu$ F 200V			
CN301	YWTJS25640V	Socket			
CN2B	EMCL0730D35V	7 pin connecting wire Ass'y for CN2B and CN2A			
<b>ACCESSORY PARTS/PACKAGING PARTS</b>					
M31	*YFV8QA0010BN	Operating Instructions for WV-5410/BCG			
M32	*YFV8QA0012BN	Operating Instructions for WV-5410E/AC, WV-5410N			
M32	YW-B-RB01	Warranty Card for WV-5410/BCG			
M34	YWT20X35C03	Polyethylene Bag for Operating Instructions or Power Card			
M35	YWV5400PR01	Polyethylene Bag for Monitor TV			
M36	*YFV9CA0009AN	Packaging Case for WV-5410/BCG			
M36	*YFV9CA0011AN	Packaging Case for WV-5410E/AC, WV-5410N			

# CONDUCTOR VIEW AND WIRING DIAGRAM





VIDEO/DEFLECTION CIRCUIT BOARD

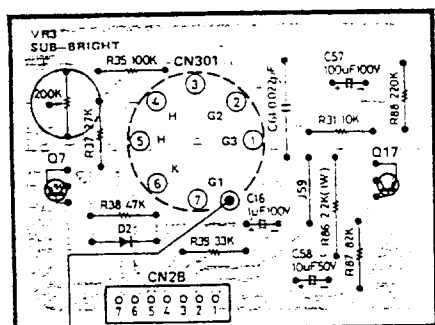
(WV-5410N ONLY)

# AND WIRING DIAGRAM

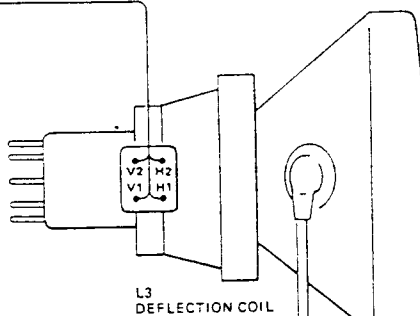
4

5

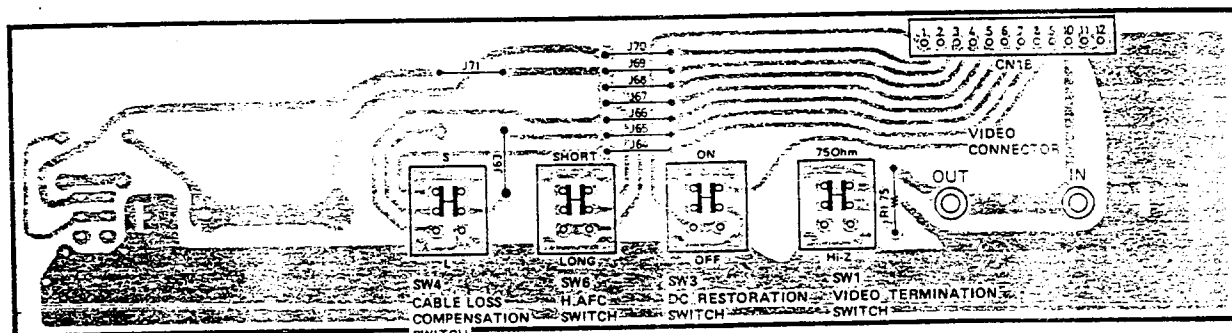
6



CRT SOCKET BOARD



IC1	LA7806	C2
Q1	2SD636-RS	A3
Q2	2SD636-RS	A1
Q3	2SB641-RS	A1
Q4	2SD636-RS	A2
Q5	2SD636-RS	A2
Q6	2SC2258	A2
Q7	2SA685	A4
Q9	2SA564A-RS	B2
Q10	2SC828A-ST	B2
Q11	2SC1983-OY	B3
Q12	2SD636-RS	B2
Q13	2SC1226-OR	B2
Q14	2SA699-OR	B2
Q15	2SC1567-RS	C2
Q16	2SD1163A	C3
Q17	2SA685	A5
D1	OA91	A2
D2	YUDRU2M	A4
D3	YUDRU2M	C2
D4	LN21RPH	D1
D5	YWDR02Z	B2
D6	YWDR02Z	B3
D7	YWDR02Z	B2
D8	YWDR02Z	B3
D9	YUDX2090	B2
D10	MA150	B1
D11	MA150	B1
D12	YUDRU2M	C3
D13	YUDU06C	C2
D15	YUDRU2M	D2
D16	YUDRU2M	D2



SWITCH CIRCUIT BOARD

LA7806

2SD1163A

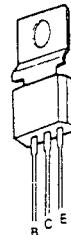
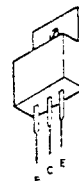
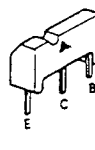
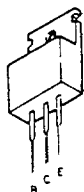
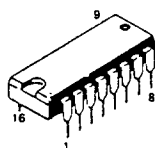
2SA564-RS  
2SA685  
2SC828A-ST

2SC1567-RS  
2SC2258

2SB641-RS  
2SD636-RS

2SC1983-OY

2SA699-QR  
2SC1226-QR



MA150

YUDRU2M

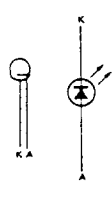
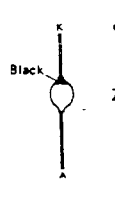
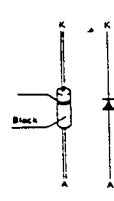
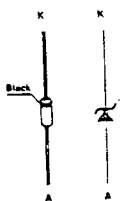
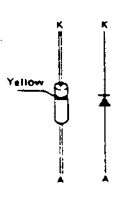
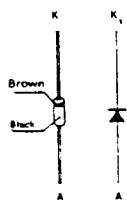
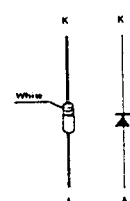
OA91

YUDX2090

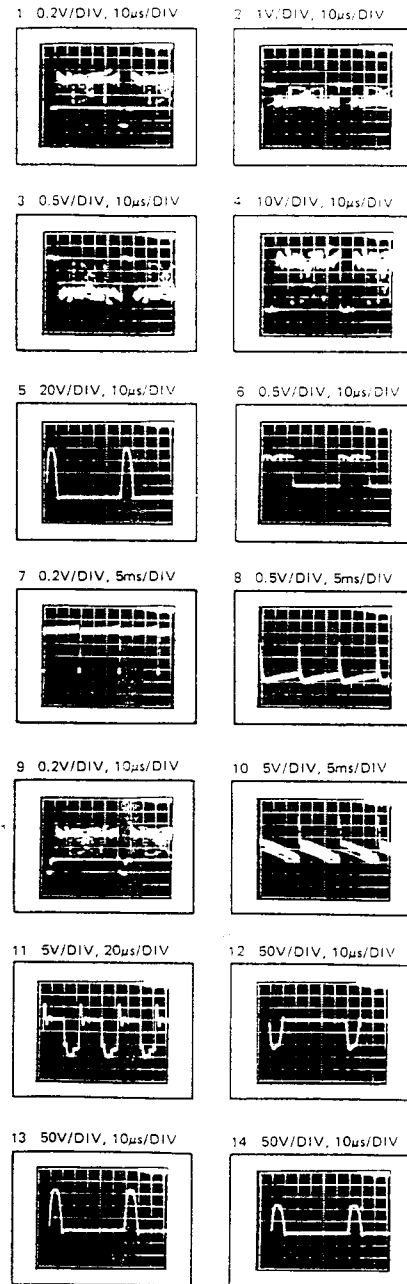
YUDR02Z

YUDU06C

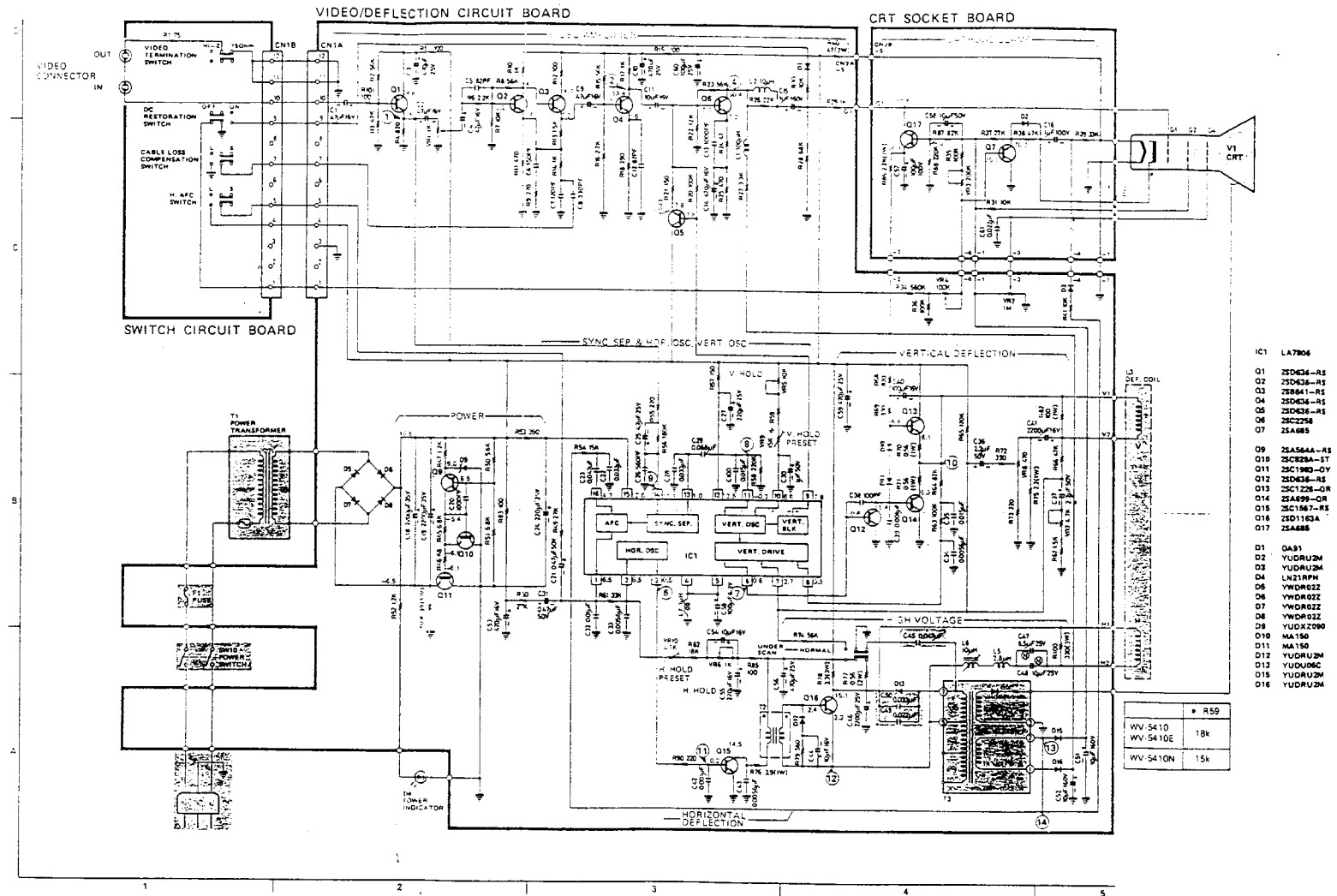
LN21RPH



## SIGNAL WAVEFORMS



## SCHEMATIC DIAGRAM



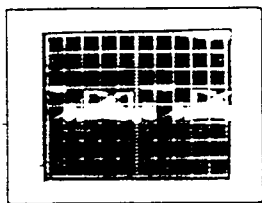
# SIGNAL WAVEFORMS

# SCHEMATIC

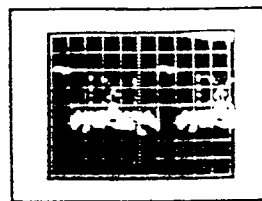
1 0.2V/DIV, 10μs/DIV



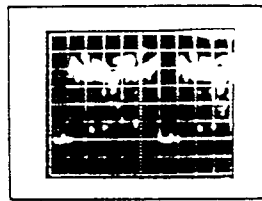
2 1V/DIV, 10μs/DIV



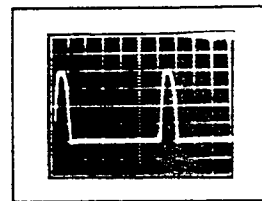
3 0.5V/DIV, 10μs/DIV



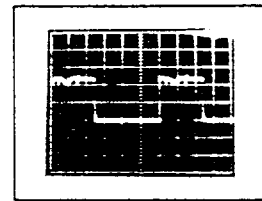
4 10V/DIV, 10μs/DIV



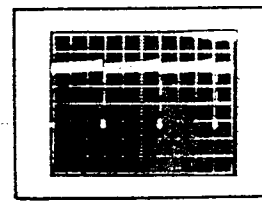
5 20V/DIV, 10μs/DIV



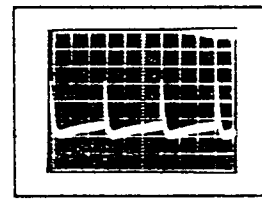
6 0.5V/DIV, 10μs/DIV



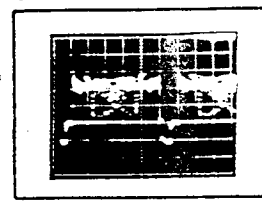
7 0.2V/DIV, 5ms/DIV



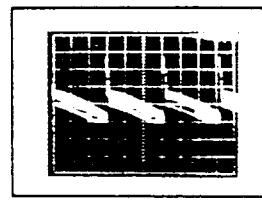
8 0.5V/DIV, 5ms/DIV



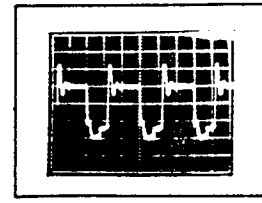
9 0.2V/DIV, 10μs/DIV



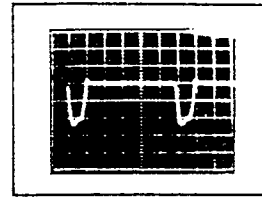
10 5V/DIV, 5ms/DIV



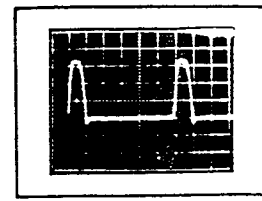
11 5V/DIV, 20μs/DIV



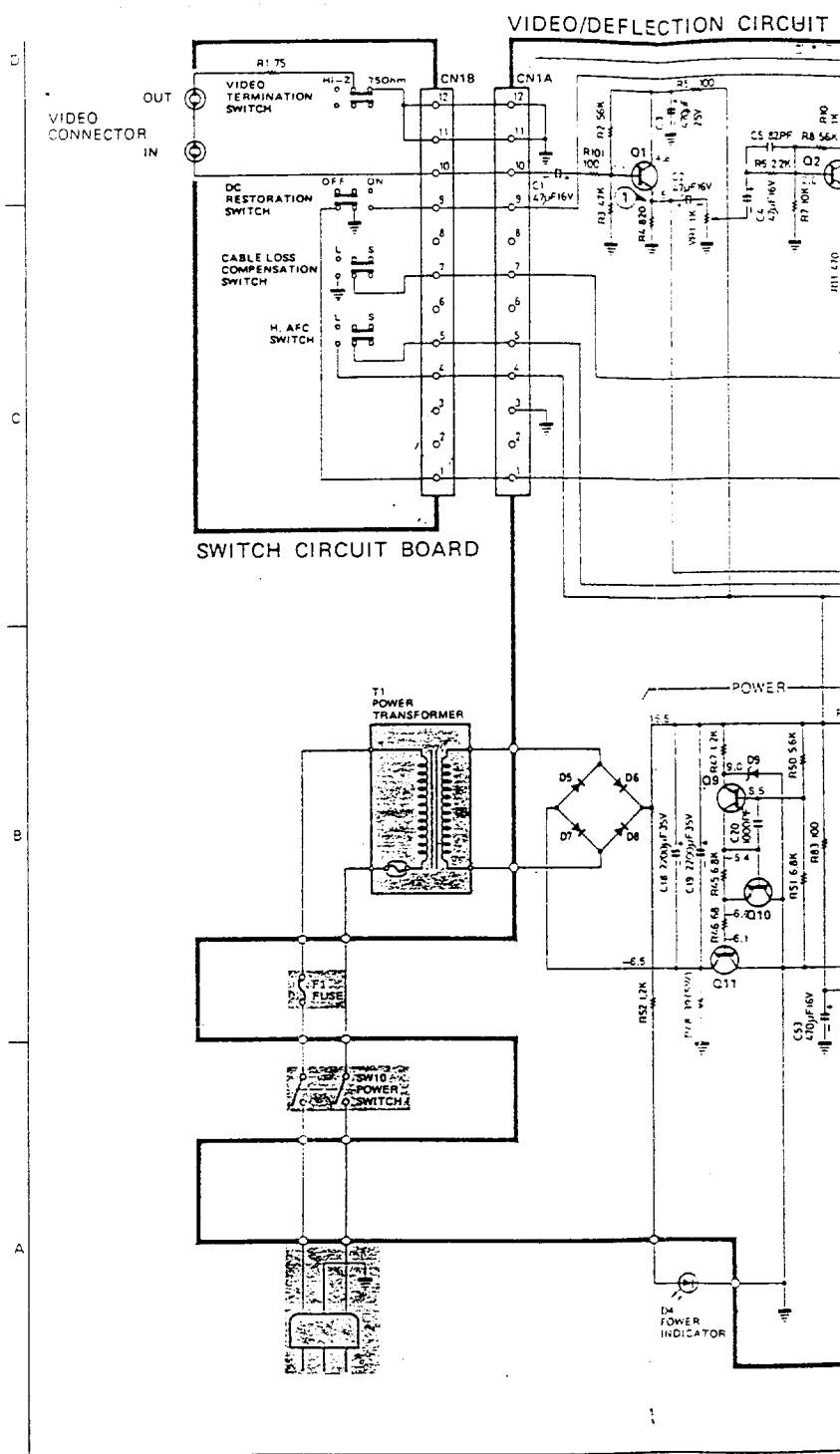
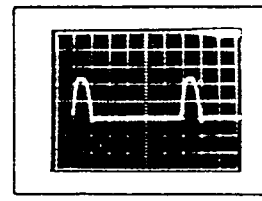
12 50V/DIV, 10μs/DIV



13 50V/DIV, 10μs/DIV



14 50V/DIV, 10μs/DIV

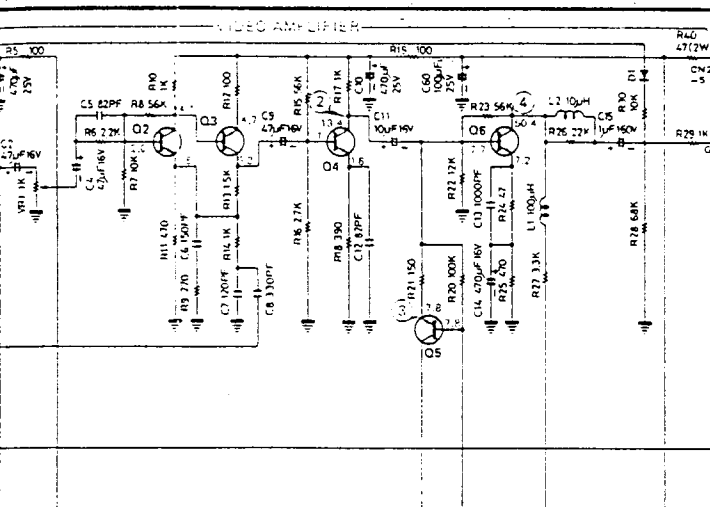


## PRODUCT SAFETY NOTE

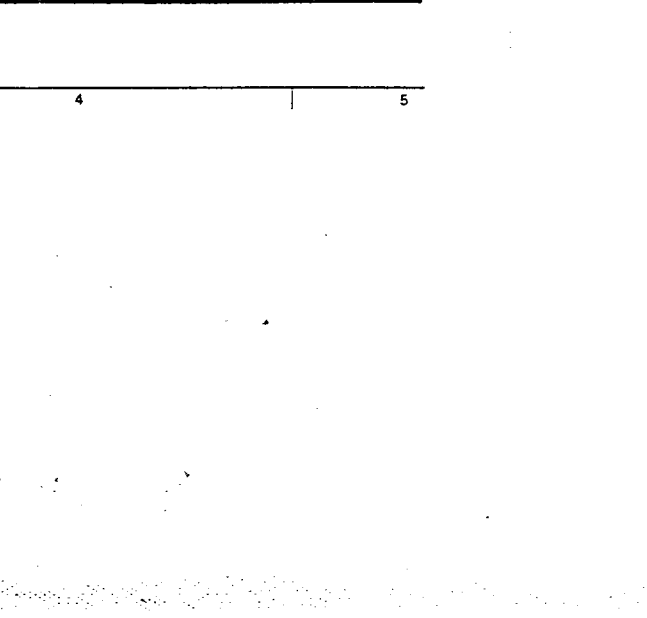
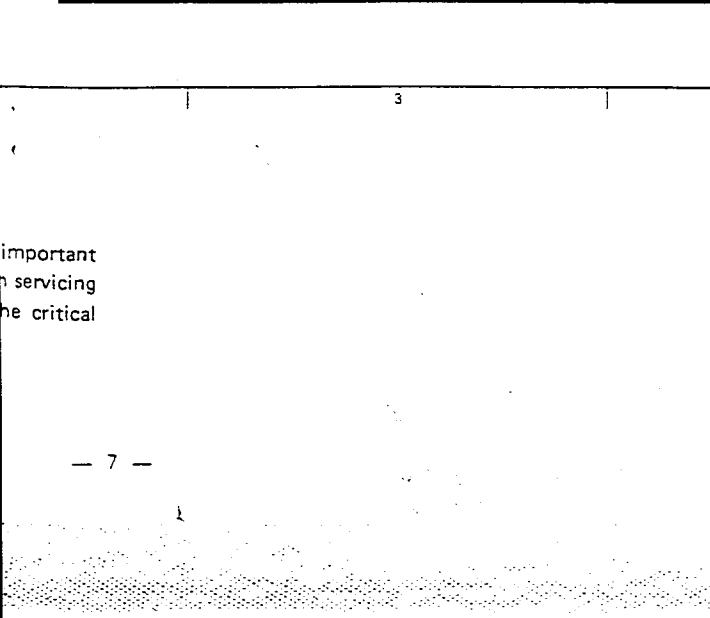
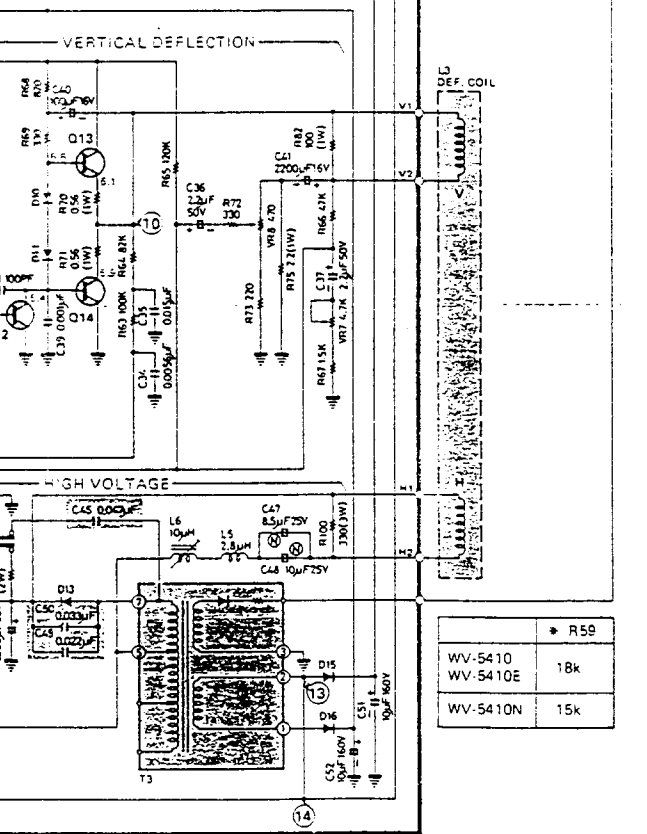
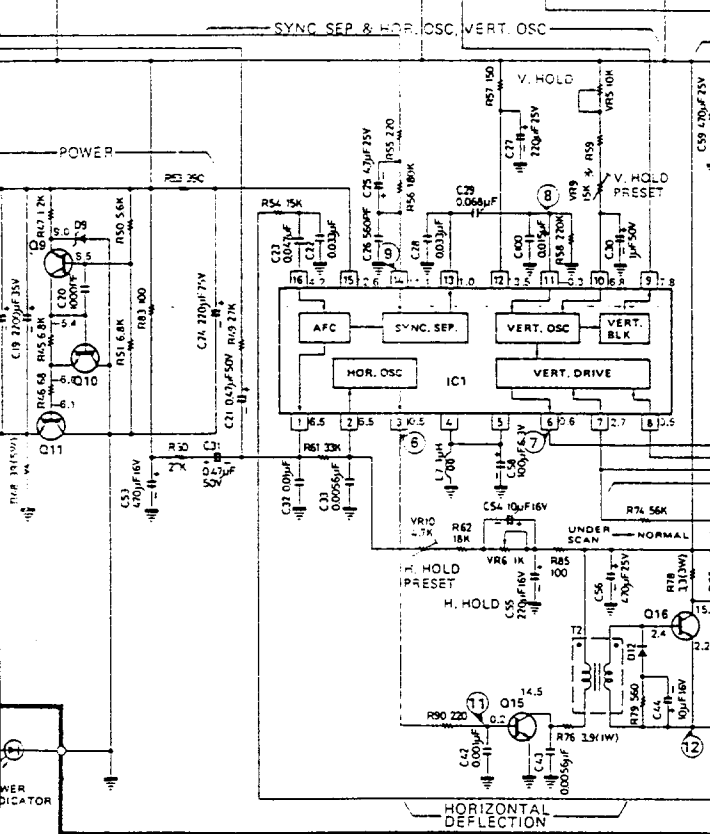
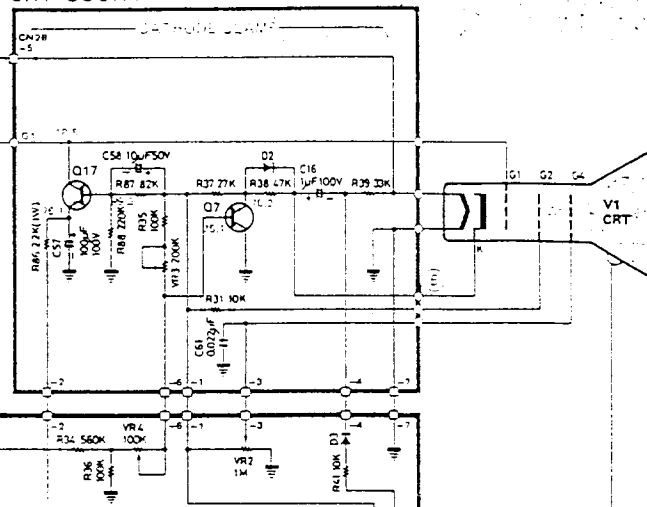
The shaded area on this schematic diagram incorporates special features important for protection from X-Radiation, fire and electrical shock hazards. When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.

# SCHEMATIC DIAGRAM

## VIDEO AMPLIFIER



## CRT SOCKET BOARD



- |     |            |   |
|-----|------------|---|
| IC1 | LA7806     | E |
| Q1  | 2SD636-RS  | D |
| Q2  | 2SD636-RS  | D |
| Q3  | 2SB641-RS  | D |
| Q4  | 2SD636-RS  | C |
| Q5  | 2SD636-RS  | C |
| Q6  | 2SC2258    | C |
| Q7  | 2SA685     | C |
| Q8  | 2SA564A-RS | E |
| Q9  | 2SC828A-ST | E |
| Q10 | 2SC1983-OY | E |
| Q11 | 2SD636-RS  | E |
| Q12 | 2SC1226-OR | E |
| Q13 | 2SA699-OR  | E |
| Q14 | 2SC1567-RS | A |
| Q15 | 2SD1183A   | A |
| Q16 | 2SD1183A   | A |
| Q17 | 2SA685     | A |
| D1  | OA91       | E |
| D2  | YUDRU2M    | E |
| D3  | YUDRU2M    | C |
| D4  | LN21RPH    | A |
| D5  | YWDR022    | B |
| D6  | YWDR022    | B |
| D7  | YWDR022    | B |
| D8  | YWDR022    | B |
| D9  | YUDXZ090   | E |
| D10 | MA150      | B |
| D11 | MA150      | B |
| D12 | YUDRU2M    | A |
| D13 | YUDRU2M    | A |
| D15 | YUDRU2M    | A |
| D16 | YUDRU2M    | A |

	* R59
WV-5410	18k
WV-5410E	
WV-5410N	15k

# EXPLODED VIEW

PCB001	YFVVK85410EA
PCB002	YFVVK85410NA
PCB003	YFVVK85410JA
V1	340AYB4
L3	YWYS32428B
T1	YFPT666005
E1	YFPT666006
	YWHBS-3-08
	YWCE0099-08
	YWVM0099-08
	YWRPLTSA-8
	YWCE0099-08F
	YFMTSA-3
E2	YWSN5053
E3	YFSN005001
SW10	EVQBA8K20
	EVQ38MK20
SW11	YW1F01AC312
F1	YFTS400MA
CN1, 2	YWBNC-R
CN1A-JM	EMCS1250M
CN1A-PF	EMCM1230B32V
CN1B-PF	EMCM1230B32V
CN2A	EMCL0730D35V
CN2B	EMCL0730D35V
CN301	YWTJS25640V
M1	YFV5BA0003A1
M2	YFV5WA0010A3
M3	YWV5350HR01
M4	YWV5350HR02
M5	YWV5350HR03A
M6	YFV2CA0005A4
M7	YFV2CA0006A4
M8	YFV2KA0007A3
M9	YFV5EA0004A3
M10	YFV2JA0003A4
M11	YFV5KA0005A2
M12	YFV5EA0003A3
M13	YFV2KA0009A2
	YFV2KB0008A2
M14	YFV2VA0001A4
M15	YWS-WB02
M16	YWSR5N-4
	YWSR6W-1
M17	YFV7QA0015B4
	YFV7QA0019B4
	YFV7QA0018B4
M18	YWS-CULRB08
M19	YWV1000NUR2
M20	YFV7MA0002A4
M21	YWB-UR01A
M22	YWB-N8T
M23	YWS-XEGRB03A
M24	YFV2CA0007A4
M25	YFV7DA0003B4
M26	YFV7DA0004A4
M31	YFV8QA0010AN
	YFV8QA0012BN
M32	YWB-RB01
M34	YWT20X35C03
M35	YWV5400PR01
M36	YFV9CA0009AN
	YFV9CA00011AN

