

HITACHI

SERVICE MANUAL

TT**No.0008E****CM1711MU****CM1711ME****TC95 Chassis****(V1.1)**

CAUTION : Before servicing this chassis, it is important that the service personnel must read the "Safety Precaution" and "Product Safety Notices" in this Service Manual.

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SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

HIGH RESOLUTION COLOR DISPLAY MONITOR

APRIL 1996

FEATURES

1. Flat screen CRT with anti-glare, dynamic focus circuit, dark glass, and INVAR shadow mask give the sharpest focus and highest contrast.
2. Automatic scanning and automatic adjustment to conform with a wide range of scanning frequencies and user requirements.
3. Signal input allows D-Sub miniature 15 pin connector.
4. Power Save Mode automatically puts the monitor into a standby mode (power consumption less than 30W) when the H.sync. signal is not detected, and a power - off mode (less than 8W) when the V.sync. signal is not detected, too. Normal mode is restored immediately when the H. sync. signal and the V.sync signal are detected. This feature prolongs monitor life and reduces energy consumption by up to about 75 %.

SAFETY PRECAUTIONS

NOTICE: Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis or picture tube.

The following precautions must be observed.

1. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn. People not so equipped should be kept away while picture tubes are handled.
2. When replacing a chassis in the monitor, all the protective devices must be put back in place, such as, barriers, non-metallic knobs, adjustment and compartment shields, and isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacturer's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacturer's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced monitor to the customer, the service personnel must thoroughly test unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the monitor by the manufacturer has become defective, or inadvertently defeated during servicing.
Therefore, the following checks should be performed for continued protection of the customer and service technician.
6. In the case of the micro prosessor unit, shop adjustment is necessary after exchange of the micro prosessor unit.

High Voltage

This monitor is provided with a high voltage hold down circuit for clearly indicating that voltage has increased in excess of a predetermined value.

Comply with notes described in this Service Manual regarding this hold down circuit when servicing, so that this hold down circuit may function correctly.

Service Warning

With minimum Brightness and Contrast the operating high voltage in this display is lower than 30 kV.

If any component having influence on the high voltage is replaced, confirm that the high voltage with minimum Brightness and Contrast is lower than 30 kV.

To measure high voltage use a high impedance highvoltage meter. (SENSITIVE RESEARCH Model: ESH or Equivalent)

Connect (—) to chassis earth and (+) to the CDT anode button. (See the following connection diagram Fig. 1.)

NOTE: Turn power switch off without fail before making the connection to the Anode button.

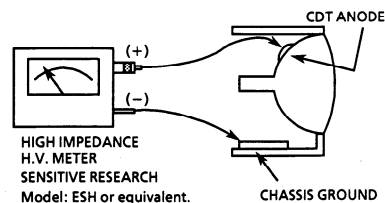


Fig. 1

X-radiation

TUBE: The source of X-radiation in this monitor is the picture tube. The tube utilized in this chassis is specially constructed to limit X-radiation emissions.

For continued X-radiation protection, the replacement tube must be the same type as the original, manufacturer approved type.

When troubleshooting and making test measurements in a monitor with a problem of excessive high voltage, avoid being unnecessarily close to the picture tube and the high voltage components.

Do not operate the chassis longer than is necessary to locate the cause of excessive voltage.

CHECK OF HIGH VOLTAGE HOLD DOWN CIRCUIT

Checking of the high Voltage hold down circuit operation.

1. Turn the switch of the unit ON, and set the Brightness and Contrast controls to max.
2. Turn the switch of the unit OFF.
3. Connect a DC Voltmeter and an adjustment jig as shown in Fig. 2.
4. Set the adjustment VR to fully counterclockwise.
5. Turn the switch of the unit ON and gradually rotate the adjustment VR clockwise.
6. Check that a reading of DC voltage-meter is less than 0.6 ± 0.1 V when picture disappears.
7. Turn the switch of the unit OFF immediately after checking that the picture disappears.
8. Remove the adjusting jig and the DC voltmeter.

NOTE: Reading of 0.6 V is approximately equivalent to 30 kV of CDT Anode High Voltage.

PRODUCT SAFETY NOTICE

Many electrical mechanical parts in the color monitor units have special safety related characteristics.

These are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with Δ on the schematics and on the parts list in this Service Manual. The use of a substitute replacement component which does not have the same safety characteristics as the manufacturer recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, X-radiation, or other hazards.

Productions are issued from time to time. For the latest information, always consult this Service Manual.

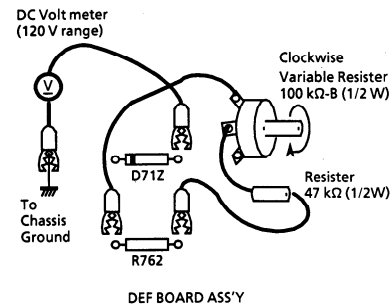
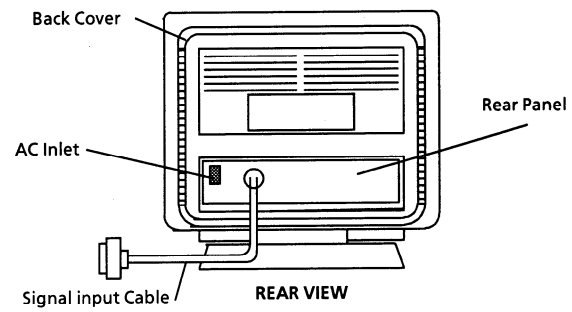
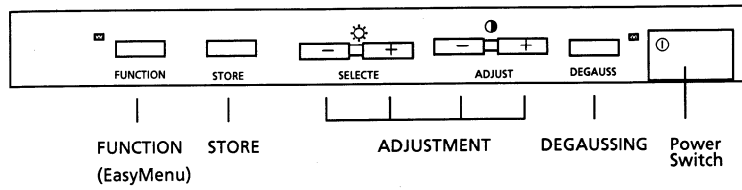
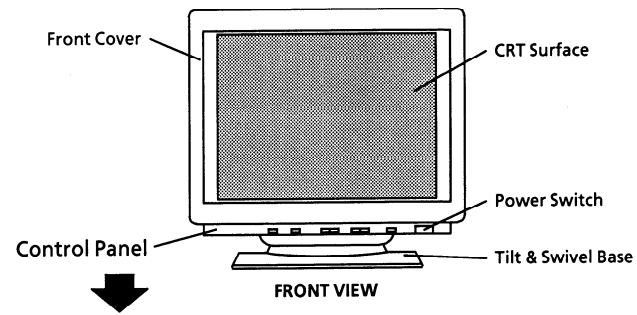


Fig. 2 Checking Circuit using jig

SPECIFICATIONS

Model Name	CM1711ME		CM1711MU
Destination	Europe		North America
Rated Volyage	AC 100-120 / 200-240 V, Automatically select. Provided with Power Save Circuit.		
Power Consumption	110 W nominal		
Color Display Tube (CDT)	17 inches diagonal, 0.26 mm dot pitch Invar shadow mask, Black matrix, Anti-Reflection coat, Short persistence phosphors.		
Rated Frequency	Horizontal : 24.8 / 82 kHz Vertical : 50 - 120 Hz		
Resolution	Horizontal : Up to 1,280 dots Vertical : Up to 1,024 lines		
Signal Inputs	Red, Green and Blue analog video H/V separate, H/V composite Sync (optional Sync on Green)		
User Controls	Power Switch Degauss Switch Store Switch, Function Switch Contrast(+) or Adjust(+) Switch Contrast(-) or Adjust(-) Switch Brightness(+) or Select(+) Switch Brightness(-) or Select(-) Switch Horizontal position, size Vertical position, size Side pincushion Trapezoid, Rotation Red, Green Blue intensity Color Select Status on off		
Environmental Condition	Operation Temperature : 10°C to 30°C Humidity : 10% to 80% Storage -20°C to 60°C 10% to 90%		
Dimensions	410 (W) × 429 (H) × 465 (D) mm Including Tilt & Swivel base.		
Weight	22kg		

CONTROLS



SIGNAL TIMING CHART

Signal			VGA-3 640×480	VESA 640×480	Macintosh 640×480	VESA 800×600 (72Hz)
1	Video	Type	R/G/B Analog	R/G/B Analog	R/G/B Analog	R/G/B Analog
		Voltage	0.7 Vp-p	0.7 Vp-p	0.7 Vp-p	0.7 Vp-p
		Set up	None	None	None	None
2	Sync.	Type	H/V Separate	H/V Separate	H/V Separate	H/V Separate
		Amp.	TTL Level (Nega.)	TTL Level (Nega.)	TTL Level (Nega.)	TTL Level (Posi.)
3	Video frequency		25.175 MHz	31.500 MHz	30.241 MHz	50.000 MHz
4	Character (Letter)		640 dots × 480 lines	640 dots × 480 lines	640 dots × 480 lines	800 dots × 600 lines
5	Horizontal	Frequency	31.469 kHz	37.860 kHz	35.000 kHz	48.077 kHz
		Front porch	0.636 μs (16 cl)	0.762 μs (24 cl)	2.116 μs (64 cl)	1.120 μs (56 cl)
		Sync. width	3.813 μs (96 cl)	1.270 μs (40 cl)	2.116 μs (64 cl)	2.400 μs (120 cl)
		Back porch	1.907 μs (48 cl)	4.063 μs (128 cl)	3.175 μs (96 cl)	1.280 μs (64 cl)
		Blanking width	6.356 μs (160 cl)	6.095 μs (192 cl)	7.407 μs (224 cl)	4.800 μs (240 cl)
		Display time	25.422 μs (640 cl)	20.317 μs (640 cl)	21.163 μs (640 cl)	16.000 μs (800 cl)
		H. period (1H)	31.778 μs (800 cl)	26.413 μs (832 cl)	28.570 μs (864 cl)	20.800 μs (1040 cl)
6	Vertical	Frequency	59.940 Hz	72.809 Hz	66.670 Hz	72.190 Hz
		Front porch	0.320 ms(10 H)	0.238 ms(9 H)	0.086 ms(3 H)	0.777 ms(37 H)
		Sync. width	0.064 ms(2 H)	0.079 ms(3 H)	0.086 ms(3 H)	0.125 ms(6 H)
		Back porch	1.047 ms(33 H)	0.740 ms(28 H)	1.114 ms(39 H)	0.478 ms(23 H)
		Blanking width	1.431 ms(45 H)	1.057 ms(40 H)	1.286 ms(45 H)	1.373 ms(66 H)
		Display time	15.253 ms(480 H)	12.678 ms(480 H)	13.714 ms(480 H)	12.480 ms(600 H)
		H. period (1H)	16.683 ms(525 H)	13.735 ms(520 H)	15.000 ms(525 H)	13.853 ms(666 H)
7	Scan System		(Non-inter laced)	(Non-inter laced)	(Non-inter laced)	(Non-inter laced)
8	Remarks		D-Sub 15P input	D-Sub 15P input	D-Sub 15P input MU-512 only	D-Sub 15P input

* VGA is a registered trademark of International Business Machines Corporation.

* VESA is a trademark of a nonprofit organization, Video Electronics Standard Association.

* Macintosh is a trademark of Apple Computer, Inc..

	Signal		Macintosh 832×624 (75Hz)	VESA 1024×764 (60Hz)	VESA 1024×764 (70Hz)	VESA 1024×764 (75Hz)
1	Video	Type	R/G/B Analog	R/G/B Analog	R/G/B Analog	R/G/B Analog
		Voltage	0.7 Vp-p	0.7 Vp-p	0.7 Vp-p	0.7 Vp-p
		Set up	None	None	None	None
2	Sync.	Type	H/V Separate	H/V Separate	H/V Separate	H/V Separate
		Amp.	TTL Level (.Nega)	TTL Level (Posi.)	TTL Level (Nega.)	TTL Level (Posi.)
3	Video frequency		57.283 MHz	64.000 MHz	75.000 MHz	78.750 MHz
4	Character (Letter)		832 dots × 624 lines	1024 dots × 768 lines	1024 dots × 768 lines	1024 dots × 768 lines
5	Horizontal	Frequency	49.730 kHz	48.780 kHz	56.476 kHz	60.023 kHz
		Front porch	0.122 μs (7 cl)	1.000 μs (64 cl)	0.320 μs (24 cl)	0.203 μs (16 cl)
		Sync. width	1.117 μs (64 cl)	1.500 μs (96 cl)	1.813 μs (136 cl)	1.219 μs (96 cl)
		Back porch	4.347 μs (249 cl)	2.000 μs (128 cl)	1.920 μs (144 cl)	2.235 μs (176 cl)
		Blanking width	5.586 μs (320 cl)	4.500 μs (288 cl)	4.053 μs (304 cl)	3.657 μs (288 cl)
		Display time	14.524 μs (832 cl)	16.000 μs (1024 cl)	13.653 μs (1024 cl)	13.003 μs (1024 cl)
		H. period (1H)	20.110 μs (1152 cl)	20.500 μs (1312 cl)	17.707 μs (1328 cl)	16.660 μs (1312 cl)
6	Vertical	Frequency	74.550 Hz	60.000 Hz	70.070 Hz	75.029 Hz
		Front porch	0.020 ms(1H)	0.123 ms(6H)	0.053 ms(3 H)	0.017 ms(1 H)
		Sync. width	0.060 ms(3 H)	0.123 ms(6 H)	0.106 ms(6 H)	0.050 ms(3 H)
		Back porch	0.784 ms(39 H)	0.676 ms(33 H)	0.514 ms(29 H)	0.466 ms(28 H)
		Blanking width	0.864 ms(43 H)	0.922 ms(45 H)	0.673 ms(38 H)	0.533 ms(32 H)
		Display time	12.549 ms(624 H)	15.744 ms(768 H)	13.599 ms(768 H)	12.795 ms(768 H)
		H. period (1H)	13.413 ms(667 H)	16.666 ms(813 H)	14.272 ms(806 H)	13.328 ms(800 H)
7	Scan System		(Non-inter laced)	(Non-inter laced)	(Non-inter laced)	(Non-inter laced)
8	Remarks		D-Sub 15P input MU-512 only	D-Sub 15P input MU-512 only	D-Sub 15P input	D-Sub 15P input MU-512 only

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Signal		Macintosh 1024×768 (75Hz)	Macintosh Two-Page 1152×870	VESA 1280×1024 (75Hz)	Macintosh 1360×1024 (70Hz)
1	Video	Type	R/G/B Analog	R/G/B Analog	R/G/B Analog
		Voltage	0.7 Vp-p	0.7 Vp-p	0.7 Vp-p
		Set up	None	None	None
2	Sync.	Type	H/V Separate	H/V Separate	H/V Separate
		Amp.	TTL Level (Nega.)	TTL Level (Nega.)	TTL Level (Nega.)
3	Video frequency		80.000 MHz	100.000 MHz	135.000 MHz
4	Character (Letter)		1024 dots × 768 lines	1152 dots × 870 lines	1280 dots × 1024 lines
5	Horizontal	Frequency	60.240 kHz	68.681 kHz	79.976 kHz
		Front porch	0.900 μs (72 cl)	0.320 μs (32 cl)	0.119 μs (16 cl)
		Sync. width	1.000 μs (80 cl)	1.280 μs (128 cl)	1.067 μs (144 cl)
		Back porch	1.900 μs (152 cl)	1.440 μs (144 cl)	1.837 μs (248 cl)
		Blanking width	3.800 μs (304 cl)	3.040 μs (304 cl)	3.022 μs (408 cl)
		Display time	12.800 μs (1024 cl)	11.520 μs (1152 cl)	9.481 μs (1280 cl)
		H. period (1H)	16.600 μs (1328 cl)	14.560 μs (1456 cl)	12.504 μs (1688 cl)
6	Vertical	Frequency	75.110 Hz	75.060 Hz	75.030 Hz
		Front porch	0.050 ms (3 H)	0.044 ms (3 H)	0.013 ms (1 H)
		Sync. width	0.033 ms (2 H)	0.044 ms (3 H)	0.038 ms (3 H)
		Back porch	0.481 ms (29 H)	0.568 ms (39 H)	0.475 ms (38 H)
		Blanking width	0.564 ms (34 H)	0.655 ms (45 H)	0.525 ms (42 H)
		Display time	12.749 ms (768 H)	12.667 ms (870 H)	12.804 ms (1024 H)
		H. period (1H)	13.313 ms (802 H)	13.322 ms (915 H)	13.329 ms (1066 H)
7	Scan System		(Non-inter laced)	(Non-inter laced)	(Non-inter laced)
8	Remarks		D-Sub 15P input	D-Sub 15P input	D-Sub 15P input MU-512 only

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DESCRIPTION OF CIRCUIT

1. Power Supply Circuit

This model incorporates a wide range universal power supply utilizing a switching regulator (see block diagram in Figure 1.1).

1.1 AC input

AC input consists of AC inlet, EMI filter (C902~C905) and rectifier D901, C908. Rectifier circuits adapt to full-wave method. Inrush current limiting circuit (R903) protects from excessive inrush current at initial stage of power on.

1.2 Switching Regulator circuit

Switching Regulator circuit is designed to handle variations of two conditions to ensure constant +B voltage to secondary circuit : (Circuit 1) varying AC input voltage 90~240 and varying load conditions of video, (Circuit 2) varying horizontal frequencies.

1.2.1 Circuit #1 :

Circuit 1 consists of chopper transformer (T940), chopper component (Q940) and control IC (I940). T940 detects input voltage and provides signal to I940 pin 5 which adjusts the pulse width based on the pin 5 voltage level to provide constant voltage output. If the secondary circuit becomes overloaded, primary current through T940 is detected at R94A, R94B and stops the switching operation. Once the circuit has overloaded, the power switch must be turned off for a short period and then turned on to re-establish power.

Switching frequency is determined by time constant of R95A~R95C, C952.

1.2.2 Circuit #2 :

Circuit 2 consists of chopper transformer (T910), chopper component (Q910) mainly providing +B voltage for horizontal deflection and high voltage circuits. Regulator method is to detect secondary voltage at I9C1 and feed through photocoupler I9A2, providing constant voltage by controlling I9A1 pin 12 at primary circuit. Switching operation is performed by frequency synchronization with circuit #1, to control I9A1 pin 10 through Q9A4 from circuit #1.

As mentioned above, while detecting secondary voltage at I9C1. I9C1 simultaneously receives voltage information from microprocessor which is proportional to the horizontal frequency. Therefore, output of circuit #2 is additionally regulated by the horizontal frequency. In this circuit, gate circuit (Q9C4,Q9C8) controls the switching operation at power control (I9A1) through photocoupler (I9A3).

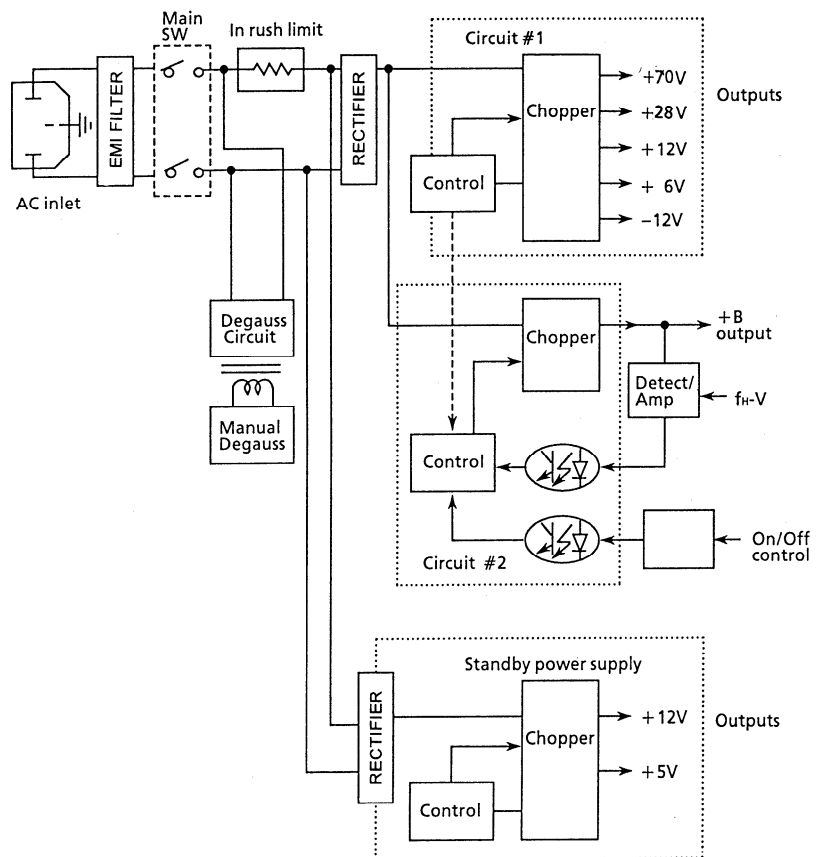
This circuit is designed to receive power off command from the microprocessor, or to shut down automatically upon receiving an abnormal horizontal sync signal, resulting in stopping chopper operation at the power supply.

Power switch must be turned off for a short period and then turned on to re-establish power.

1.3 Degaussing circuit

When the power is switched on, the CRT is degaussed automatically by current flowing through the degauss circuit while the relay (S91R) is closed. Degaussing current flows for approximately 20 seconds and stops after secondary circuit operation is stabilized causing relay (S91R) to be opened. The circuit also allows for manual degauss by user switch at front panel which closes S91R through Q999, to allow current to flow through the degauss coil.

Figure 1.1: Block diagram for power supply circuit



1.4 Standby power supply

The outputs are +5 V which is used mainly to drive the microprocessor circuit and +12 V which drives input the signal selection circuit.

The standby power supply also includes a self-excited switching regulator. The DC voltage full-wave rectified by D920 and C920 is applied to I920 via R921 and R922 in which a switching transistor turns on and oscillations start. Once oscillations start, the switching transistor is driven by a voltage taken from the tertiary winding of T920 by way of C922 and R923 and applied to its base. The output voltage of the T920's tertiary winding is rectified by D923 and C924 and applied to pin 1 of I920 to control the output voltage.

The main power supply turns on (off) when a signal High (Low) is applied to the base of Q997 from the microprocessor circuit.

If High is supplied, Q997 turns on, current flows through S93R, forcing the switch integrated with S93R to turn on and eventually turning on the main power supply.

If Low is supplied from the microprocessor circuit, Q997 is cut off and the switch integrated with S93R turns off as its solenoid is not energized. Eventually the main power supply turns off.

2. Video Processing Circuit

The video input signal of 0.7Vp-p is amplified to approximately 40Vp-p by the video processing circuit and is fed to the cathode to drive the beam current.

This chassis incorporates a single chip video processor with three channels, one for each of R/G/B, which functions as the pre-amp of the input and also gain control. A control signal from the microprocessor changes the amplifier gain of the video channels (R/G/B) together so that the color balance is maintained over a wide range of CRT brightness.

ACL circuit

The current at the secondary winding of the flyback transformer is used to represent the CRT beam current. The current is measured and fed to the contrast control Q201, Q202 to limit the maximum beam current with negative feedback.

After the video signal is amplified within I201, the signal is DC clamped by the clamping circuit and then amplified by the output amplifier Q21R, Q22R, Q21G, Q22G, Q21B and Q22B to drive the CRT cathode.

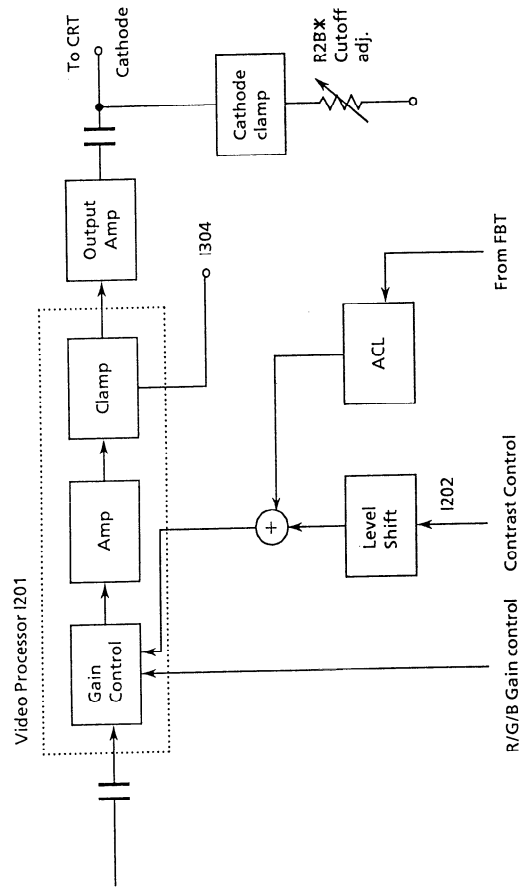
The DC voltage at the CRT cathode is adjusted by the cathode clamp circuit to enable DC cutoff voltage adjustment at the three R/G/B channels by R2BR, R2BG and R2BB.

Screen muting is achieved with a control signal from the microprocessor through I202 during signal timing changes.

Blanking circuit

Video blanking during the beam retrace period is achieved by applying both horizontal and vertical blanking pulses to the G1 electrode through Q810~Q812.

Figure 2.1 Video Process Circuit



3. Horizontal Deflection and High Voltage Regulation Circuit

3.1 Horizontal Deflection circuit

The purpose of the horizontal deflection circuit is to cause the CRT electron beam to be scanned horizontally by driving a current through the deflection yoke, synchronized by the H sync pulse. The circuit consists of an AFC circuit, made up of an H phase detector and VCO (voltage controlled oscillator), and the deflection output.

The H. sync signal is input to I701 where it is delayed and then input to a phase detector. The phase detector (I701) also accepts input from a sawtooth waveform which is provided by the deflection feedback (H.output pulse). The output of the phase detector creates an error voltage between the feedback pulse and the input pulse and is then fed to the VCO after processing by an AFC filter.

The AFC circuit also receives controller voltage from the microprocessor's output of the f_H -V signal, to center the free-run frequency within the pull-in range of 24.8~82kHz, achieving a wide pull-in range. The output pulse from the VCO is fed to the pre-drive and then output from I701 to the drive buffer Q701/Q702. The pre-drive circuit within I701 is duty cycle controlled by the f_H -V signal from the microprocessor through a level shifter, I703.

In the case of the TC95 chassis, the deflection circuit has been separated from the high voltage regulation circuit to provide improved H linearity performance by utilizing the consonant conditions of the horizontal beam current characteristics. The S-consonant capacitors, C781~C787, are changed by Q773~Q782, which provide six stages of consonant conditions. The horizontal linearity coils, L770~L771, are changed by S77R to provide two stages of H linearity conditions.

The power supply parabolically modulates the +B voltage of the deflection circuit, based on the horizontal frequency, to provide a frequency-dependent voltage of between 50 and 145V to the deflection circuit.

3.2 High Voltage Regulation circuit

The output pulse from I701 is also fed to the high voltage regulation circuit with the same design of consonant circuit as the horizontal deflection circuit. High voltage of 26kV is obtained by the step-up windings of the flyback transformer to drive the CRT anode. The high voltage is monitored by the E_{HV} error detection circuit. The error detection circuit functions by stepping the high voltage down and comparing it with the reference voltage of D70Z and D74Z, whose output controls Q750, the E_{HV} regulator.

Figure 3.1 Horizontal Deflection Circuit

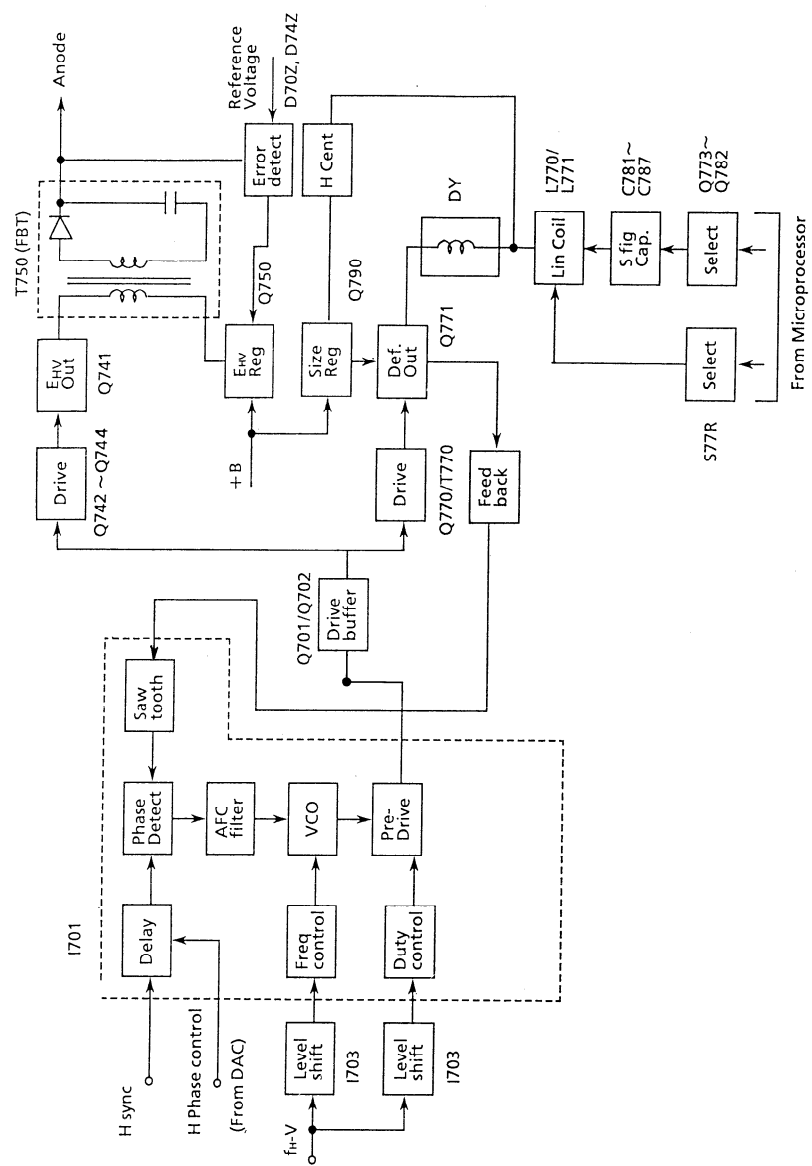
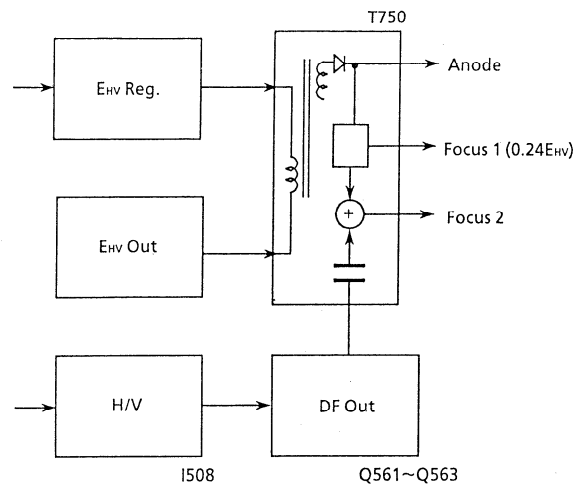


Figure 3.2 High Voltage Circuit



3.3 Horizontal Size Control

+B output is fed to the horizontal deflection circuit after being modulated by the modulation circuit (Q790, Q794). The modulation circuit's voltage output contains the parabolic waveform to control horizontal size. This horizontal waveform is compensated for the side pin by controlling the amplifier's gain (I507), with the vertical parabolic signal from I505 pin 12. The gain of I507 is controlled by the level shifted side pin control signal from the microprocessor.

Trapezoidal control method

Trapezoidal control is achieved by adjusting the gain of the vertical sawtooth waveform from I505, pin 10, using the trapezoidal control signal from the microprocessor.

The trapezoidal and side pin control signals are then summed at I508. The horizontal size signal from the microprocessor is then summed with the control signals (from I508) at I501, and fed to the horizontal size output circuit (Q790, Q794).

The horizontal deflection circuit is achieved by controlling base voltage at Q790 with the modulated base voltage of Q794.

3.4 Parabolic Waveform Generator Circuit

This circuit generates the parabolic waveform for the purpose of dynamic focus compensation, horizontal size control, and side pin compensation.

3.5 Dynamic focus compensation waveform

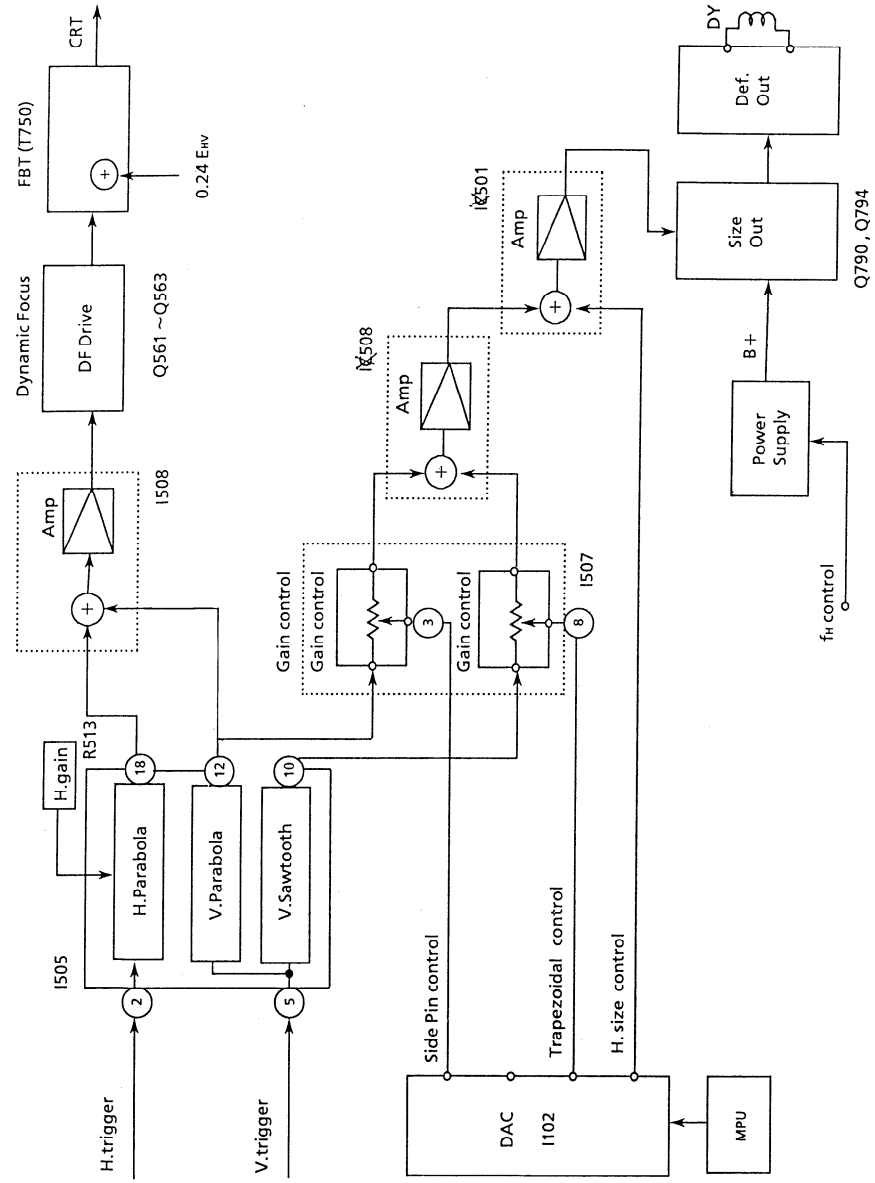
Vertical sync signals are input to I505 pin 5. Output of pin 12 generates a parabolic waveform with an amplitude proportional to the vertical line frequency, after processing by I505.

Horizontal trigger pulses are input I505 pin 2. The output of I505 (pin 18) feeds the parabolic waveform, with an amplitude proportional to the horizontal line frequency (after processing by I505), to I508. I508 is a processor which combines horizontal and vertical parabolic output pulses to feed to the dynamic focus drive circuit.

3.6 Dynamic focus drive circuit

This monitor's CRT includes a dynamic focusing electron gun to achieve sharp and uniform focus throughout the display area. The CRT's Focus anode receives a DC component of approximately 24% of the CRT anode voltage, combined with the AC voltage parabolic waveform of magnitude of 300Vp-p horizontal, and 150Vp-p vertical. DC focus voltage is obtained from a tap of the flyback transformer's winding coil, and fed to G3 focus electrode. Horizontal and vertical parabolic output pulses are amplified at Q561~Q563 and fed to the flyback transformer where they are combined with the DC component (24% of anode voltage). The potentiometers (focus 1, focus 2) at the flyback adjust the DC focus voltage. The focus 1 potentiometer mainly adjusts horizontal beam shape (vertical line width), and the focus 2 potentiometer mainly adjusts the vertical beam shape (horizontal line width) by optimizing the DC component of the parabolic waveform.

Figure 3.3 Waveform Making Circuit



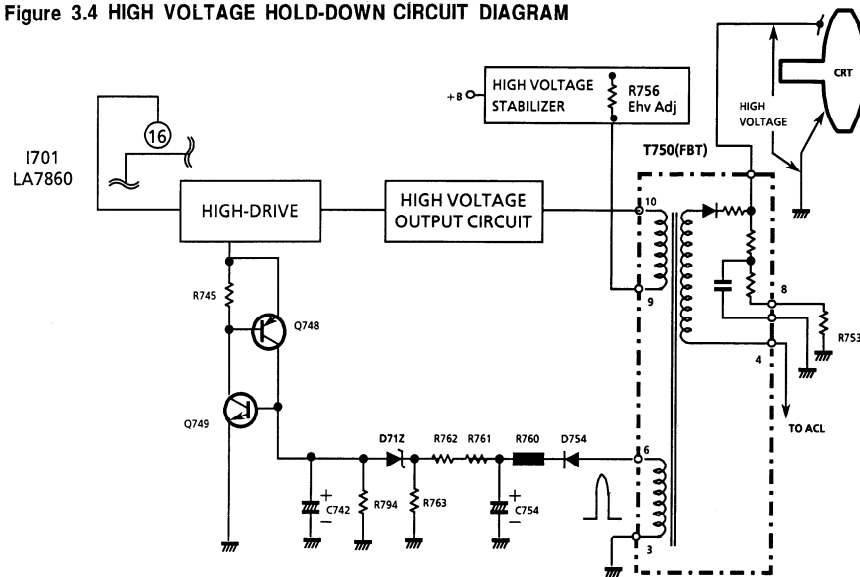
DISRIPTION OF CIRCUIT

3.7 High Voltage Hold-Down Circuit

TC95 - Chassis uses a system in which an abnormal high voltage is detected to stop the high voltage is detected to stop the high voltage output. The detail of the circuit operation is as follows.

When the voltage of D71Z anode which is proportional to the extreme high voltage exceeds the specified threshold voltage which is determined R794 and D71Z. The voltage of Q749 base becomes high level, and is stopped high voltage drive circuit.

Figure 3.4 HIGH VOLTAGE HOLD-DOWN CIRCUIT DIAGRAM



4. Vertical Deflection Circuit

The purpose of the vertical deflection circuit is to cause the CRT electron beam to be scanned vertically by driving a current through the deflection yoke, synchronized by the V sync pulse. V sync is input to the V oscillator circuit, I701, generating the vertical drive pulse. The vertical drive pulse is fed to I630 through Q631 to generate the sawtooth waveform which is amplified by the pre-amp and V output amplifier of I630 to drive the vertical deflection yoke.

The vertical output stage consists of a DC feedback loop, with feedback of the DC component via the low pass filter, and an AC feedback loop with feedback of the AC component. The AC feedback current goes through feedback circuit #2 and is fed to the Oscillator control (Q650) where it is used to adjust the time constant. The Oscillator control then modulates the sawtooth wave generator of I630 providing improved vertical linearity, with adjustment pot R644.

The vertical size control signal from the microprocessor is fed to the Oscillator control (Q650) to control the amplitude of the oscillation voltage.

The output stage of I630 includes a ramp-up circuit with D632 and C632 achieving near doubling of the retrace pulse to minimize retrace time.

The vertical position control signal from the microprocessor is fed to the vertical deflection yoke through a level shifter I631 and the vertical centering circuit of Q661~Q662 to center the raster.

V. size control

5. Microprocessor Circuit

The microprocessor circuit consists of the following four detailed circuits as shown in Figure 5.1

1. Sync and frequency detect circuit
2. Front panel key data Input / Output (I/O)
3. Processing and memory
4. Control output

5.1 Sync detect circuit

The sync detect circuit is a 10MHz microprocessor which determines sync frequency count. Sync polarity is detected by I304.

5.2 Front panel key data Input / Output (I/O)

User input is received by the front panel keys which consists of : six keys.

six keys :

- | | | |
|-----------------|-------------|--------------|
| 1) Contrast + | or Adjust + | 5) .Store |
| 2) Contrast - | or Adjust - | 6) .Function |
| 3) Brightness + | or Select + | |
| 4) Brightness- | or Select - | |

Store key allows current settings (including picture size, geometry, and color setting) to be stored to non-volatile memory. The maximum memory capacity is for 20 presets including factory standard settings.

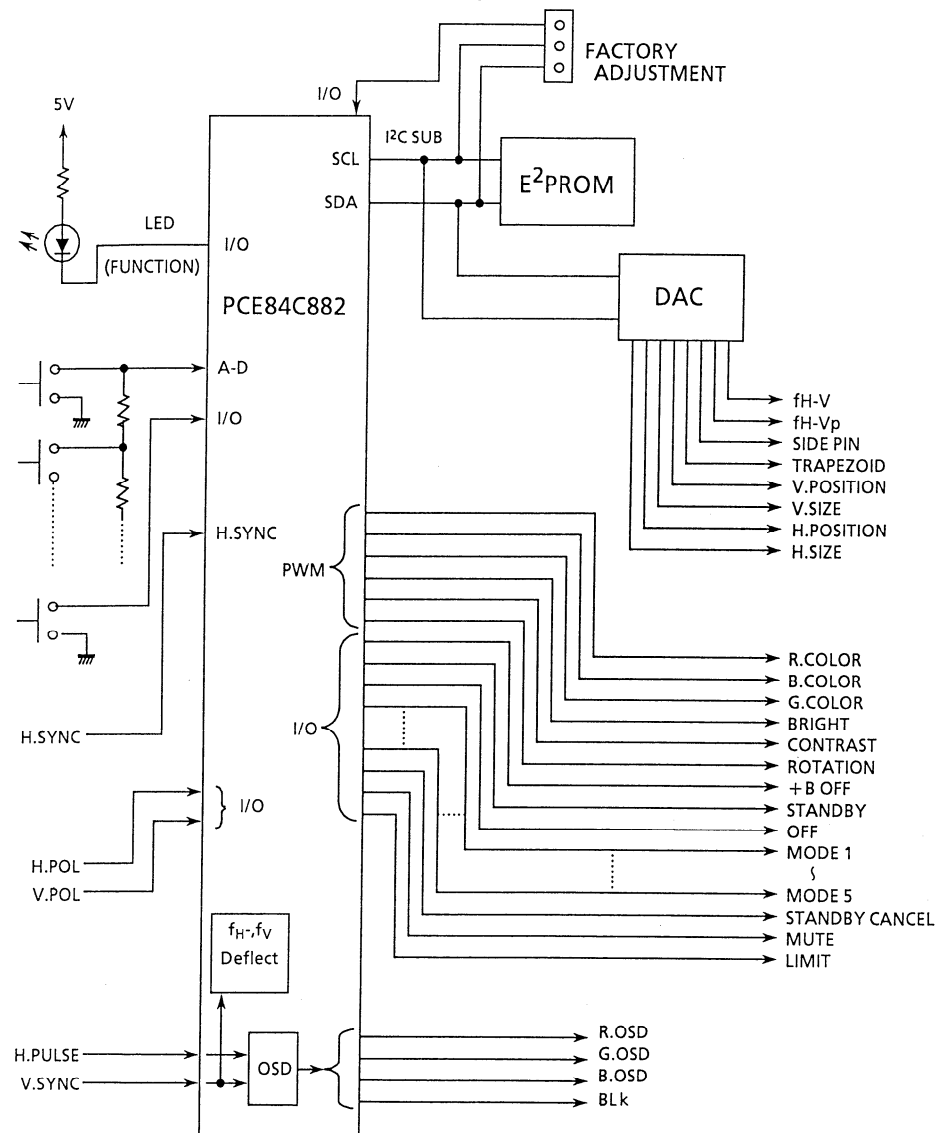
5.3 Processing and memory

I101 is an 8 bit microprocessor. I103 is on EEPROM for preset data.

5.4 Control output

The microprocessor output controls the DAC, PWM (pulse width modulator), 12 output ports and OSD. The input control signal to the DAC, I102, is fed to deflection and power control (H/V size, H/V position, geometry, FH-V and FH-Vp), PWM output controls R/G/B color gain, contrast, brightness and rotation. OFF and Stand-by controls provide power savings by stopping +B output and V.Osc circuits if H or V sync are not supplied. The mute circuit brings video output to black level when timing signal changes or the monitor goes into the power saving mode.

Figure 5.1 Microprocessor Circuit



6. Power Save Function

The TC95 chassis is capable of power savings by sensing of the sync input conditions by the micro-processor. The microprocessor can identify two sync conditions, (1) No detection of H.sync or V-sync (2) No detection of V sync and H.sync.

1. No detection of H sync or V.sync: (Standby mode/Suspended mode)

In the case of no Horizontal sync, the horizontal deflection circuit's +B power supply shuts off, to avoid wrong operation.

In this case, the function LED flashes orange color.

if this condition lasts for more than 10 seconds, Vertical and horizontal free-run stops, and the power switch LED changes to orange color.

2. No detection of V.sync and H. sync (Off mode)

In the case of no Vertical and Horizontal sync signal, the video circuit is muted and the vertical circuit runs at the free-run frequency.

In this case, the function LED flashes orange color.

If this condition lasts for more than 10 seconds, the power supply circuit shuts off, and the power switch LED changes to orange color.

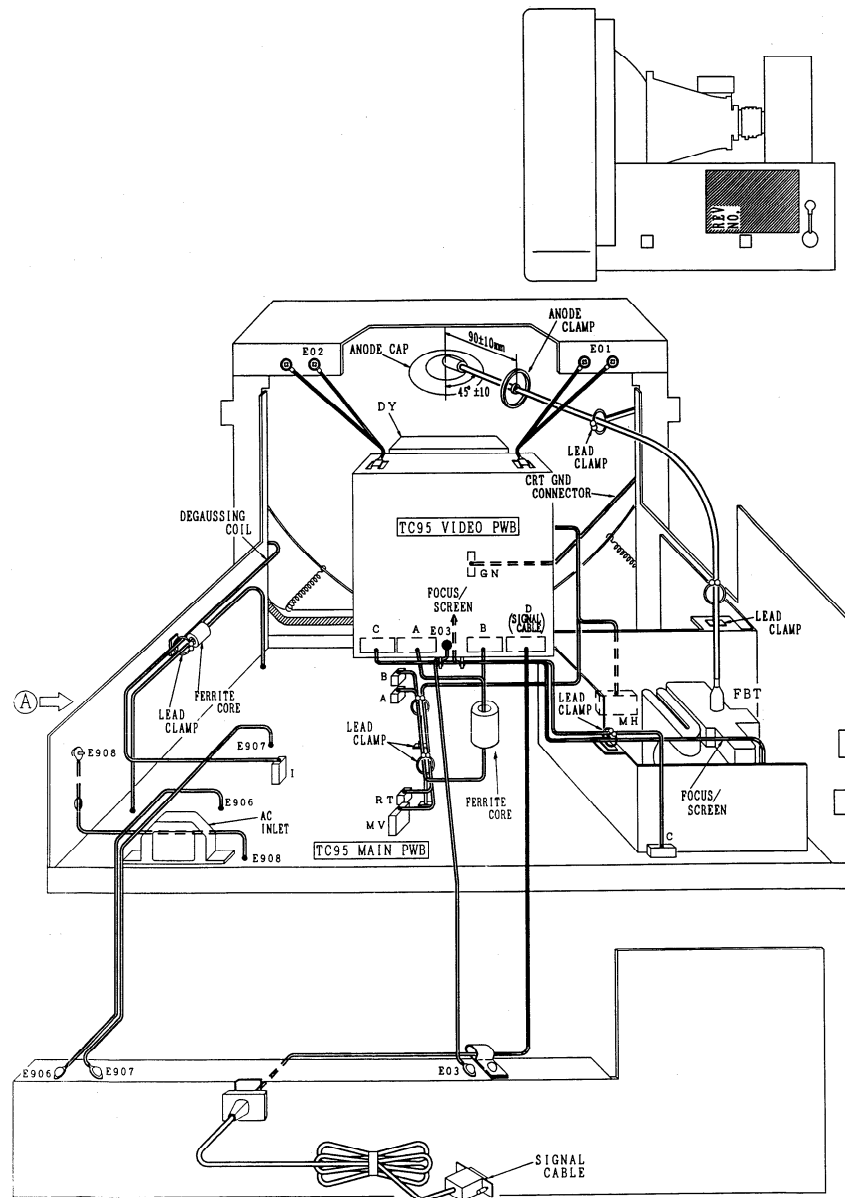
The following table shows the details of the Power save mode.

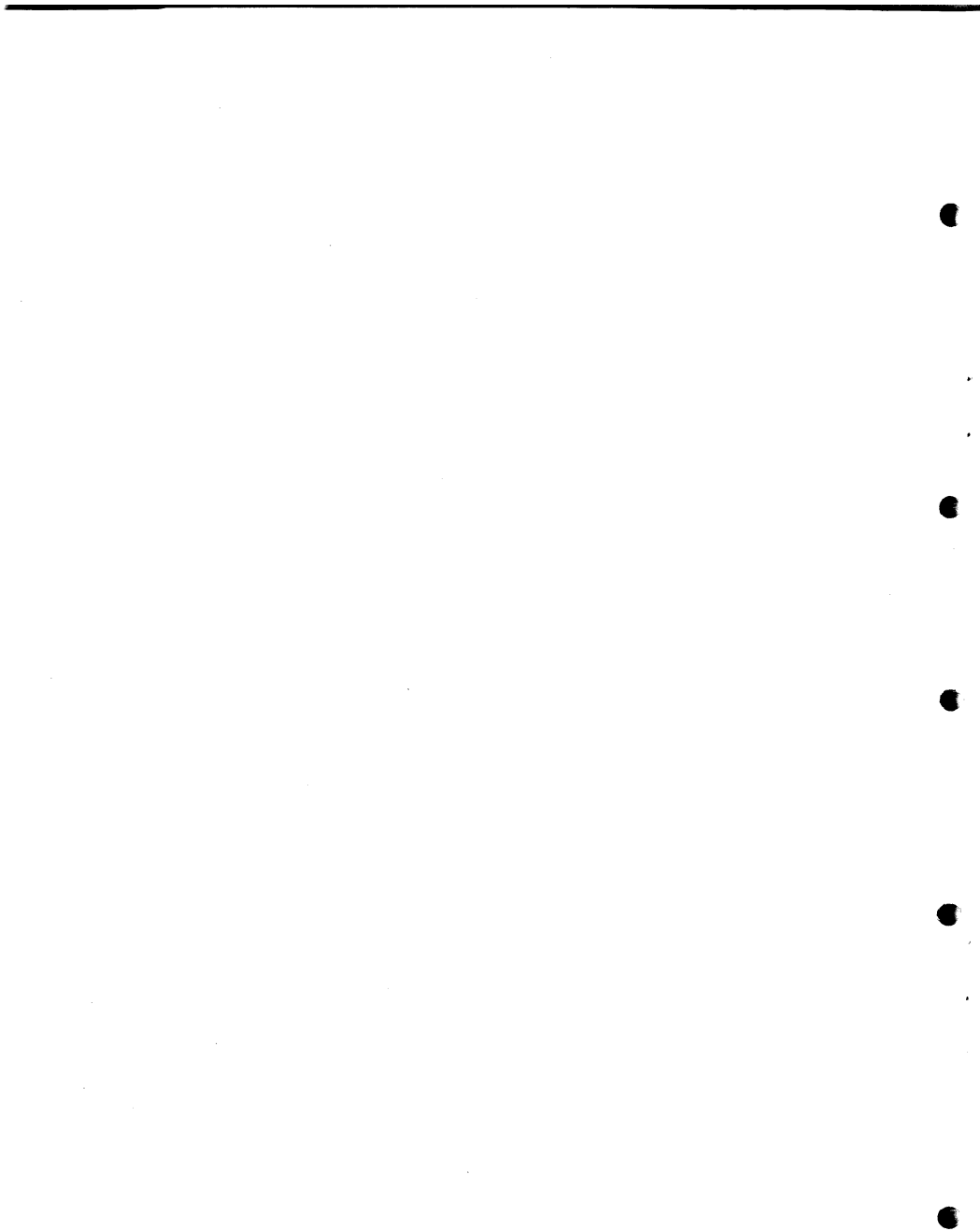
Table : CM1711M Power save

Sync	H Sync	Yes	No	Yes	No
	V Sync	Yes	Yes	No	No
VESA Standard	Name	Normal	Standby	Suspend	Off
	Recovery Time	N/A	 Short		System Dependent
	Power savings	None	 Minimal		Maximum
Circuit Operation	H. Deflection	Normal operation	 Stop		Stop
	V. Deflection	Normal operation	Stop		Stop
	Video	Normal operation	 Mute		Mute
	CRT Heater	Provided	 Provided		un Provided
Power consumption (Typical) : AC (120V)		All White 110W All Black 85W	26W		5W

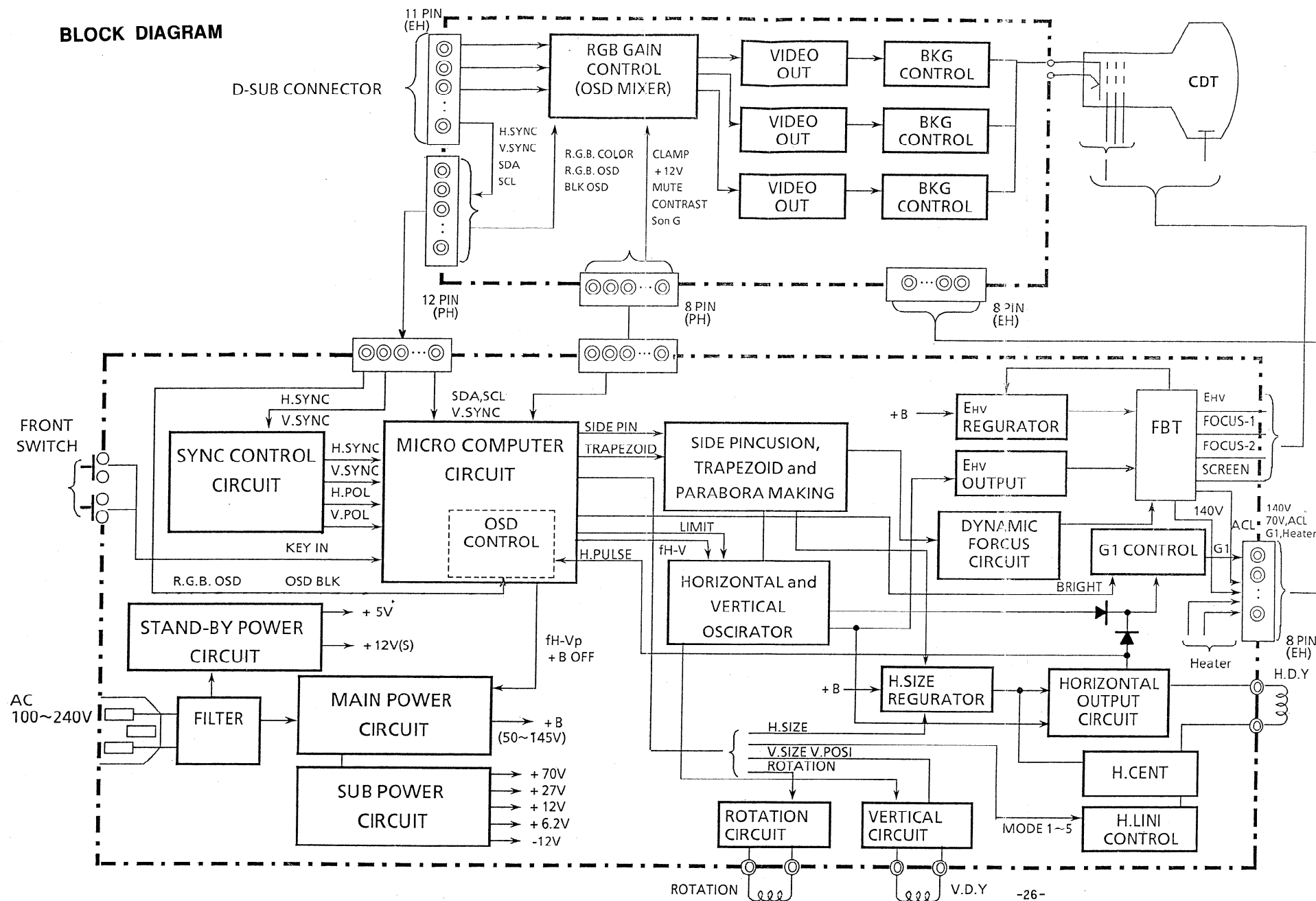
WIRING DIAGRAM

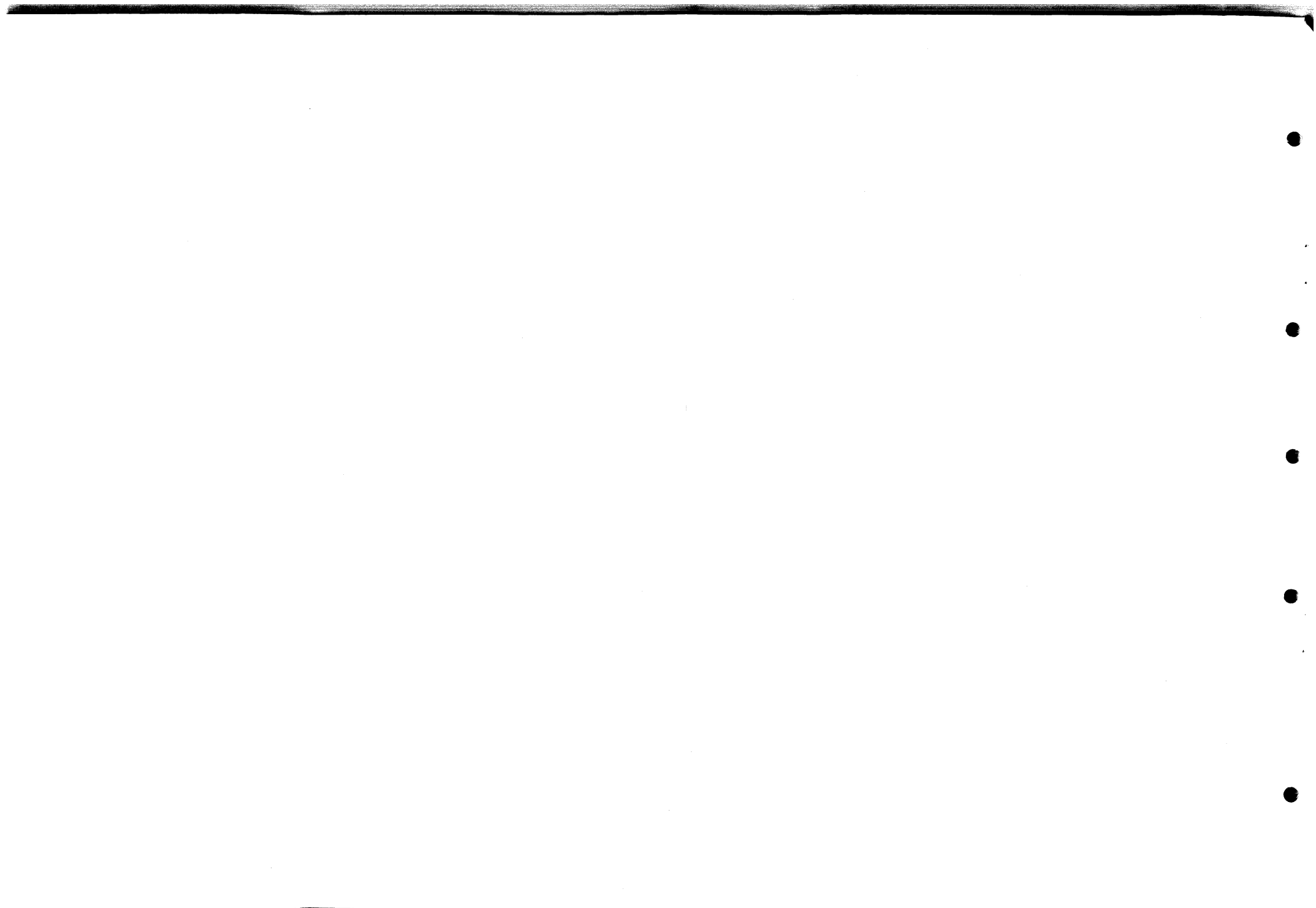
FIGURE SHOWS FROM A.

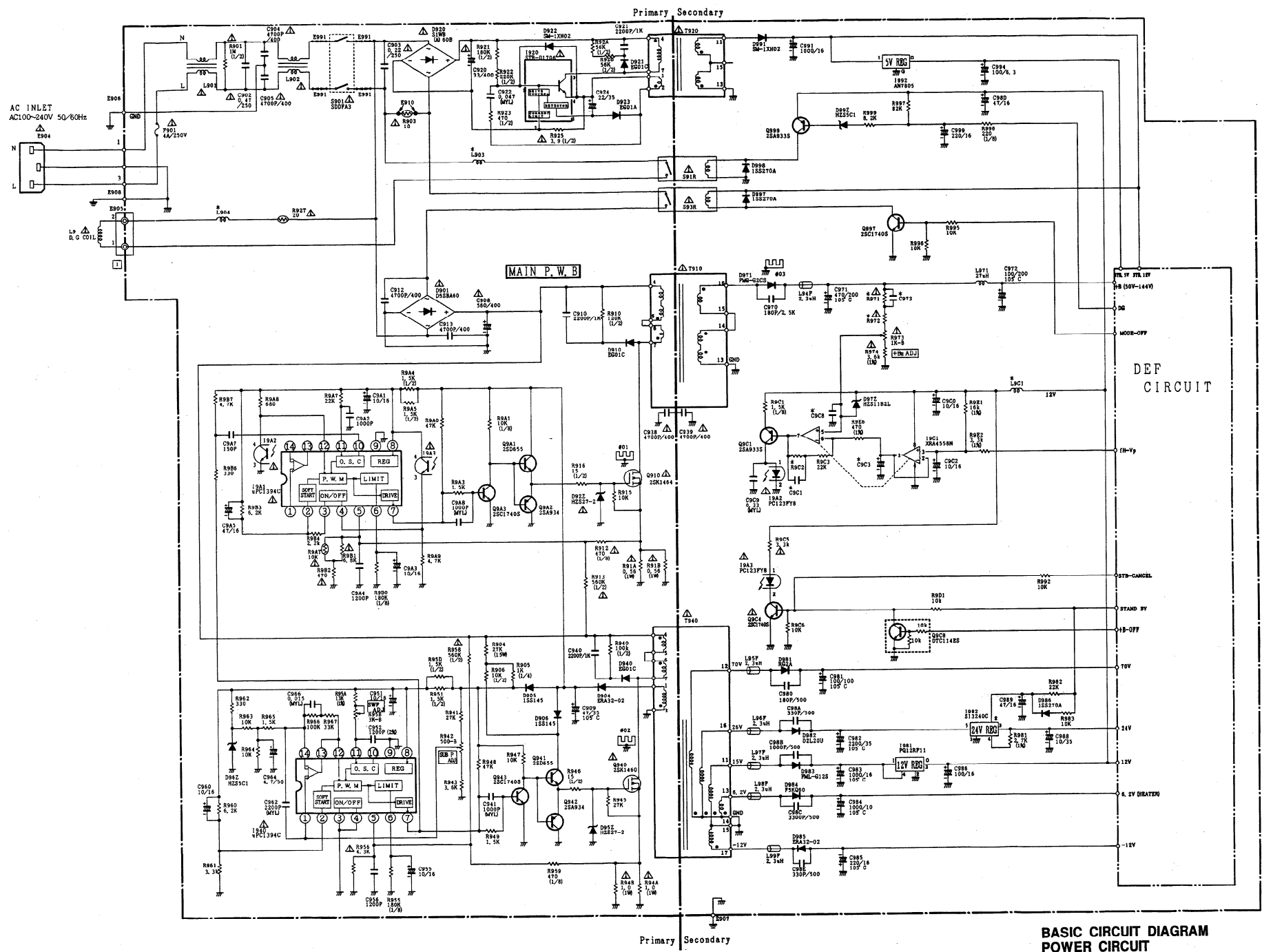




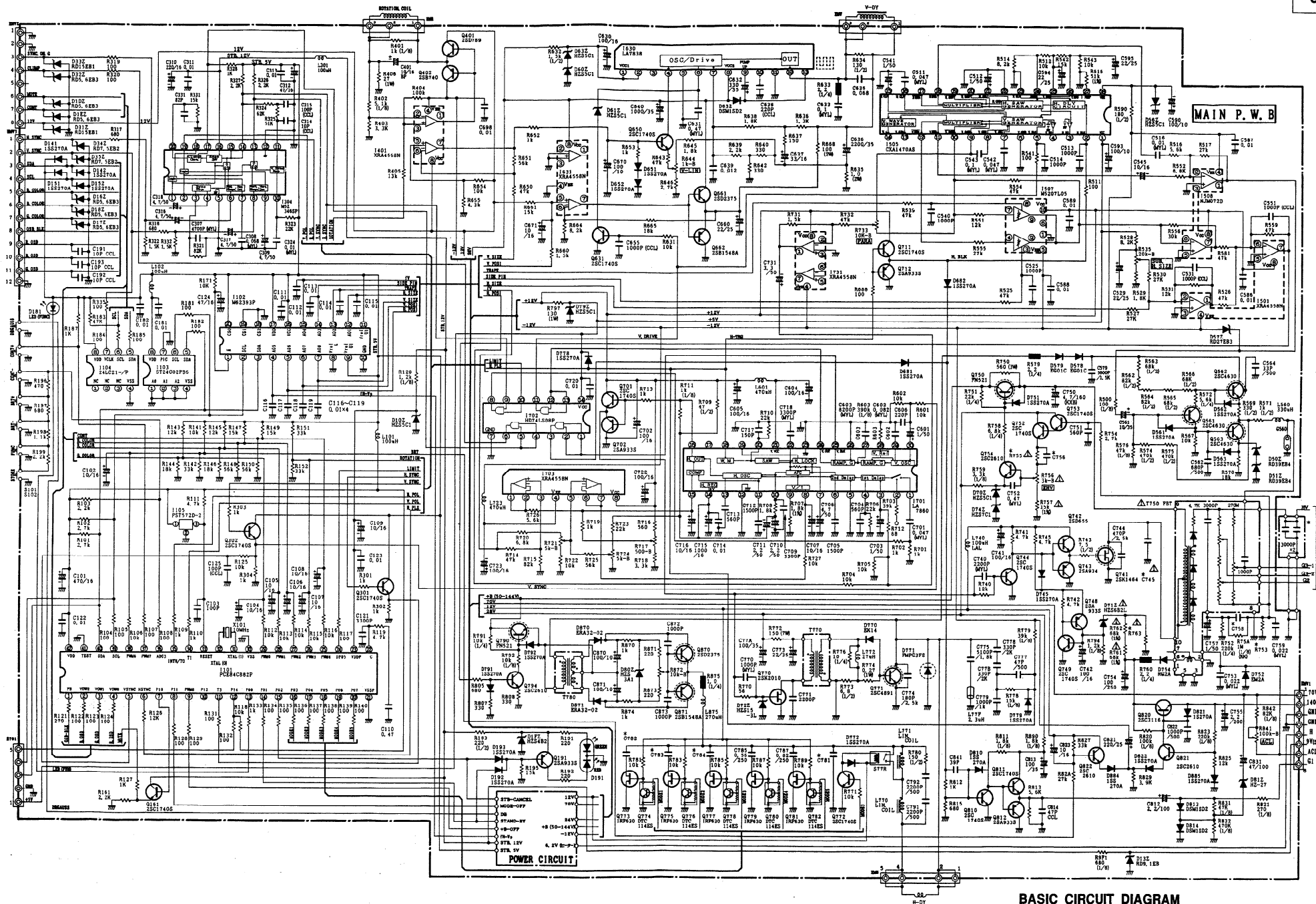
BLOCK DIAGRAM







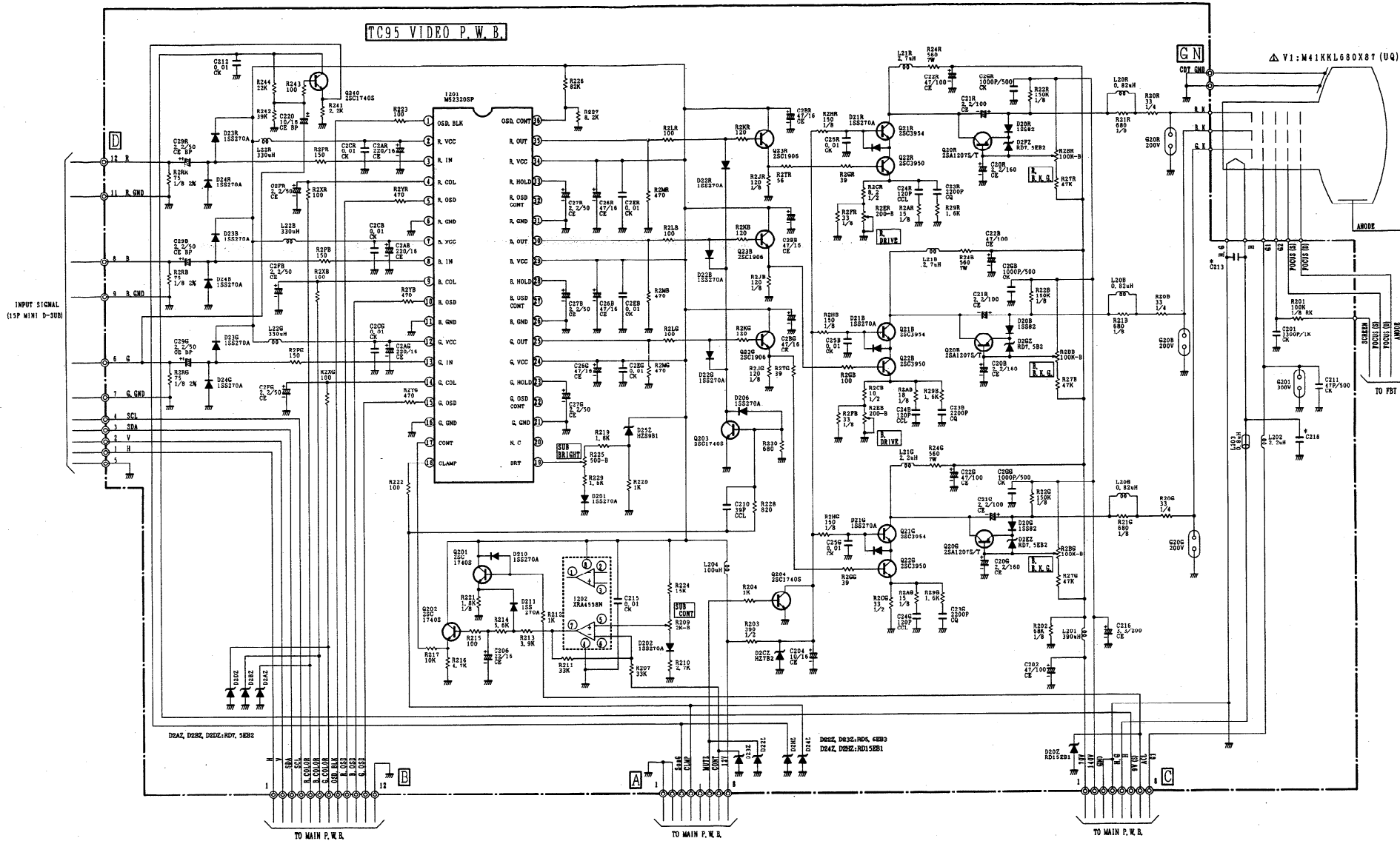
BASIC CIRCUIT DIAGRAM
POWER CIRCUIT



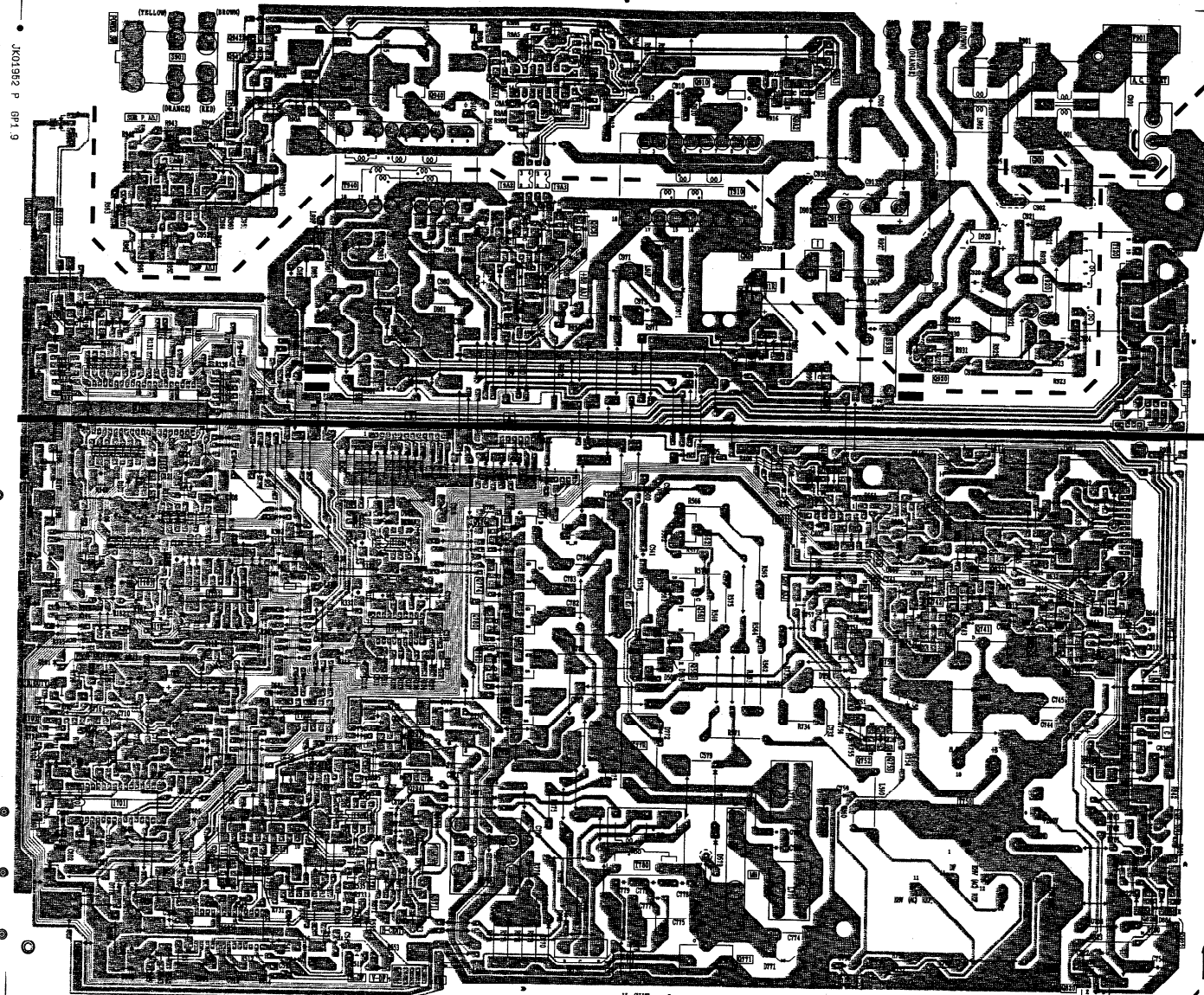
**BASIC CIRCUIT DIAGRAM
MAIN CIRCUIT**

NOTE: X MARKS ARE OPTIONAL SYNC. ON GREE.





BASIC CIRCUIT DIAGRAM
VIDEO CIRCUIT
 NOTE: X MARKS ARE OPTIONAL SYNC. ON GREEN.

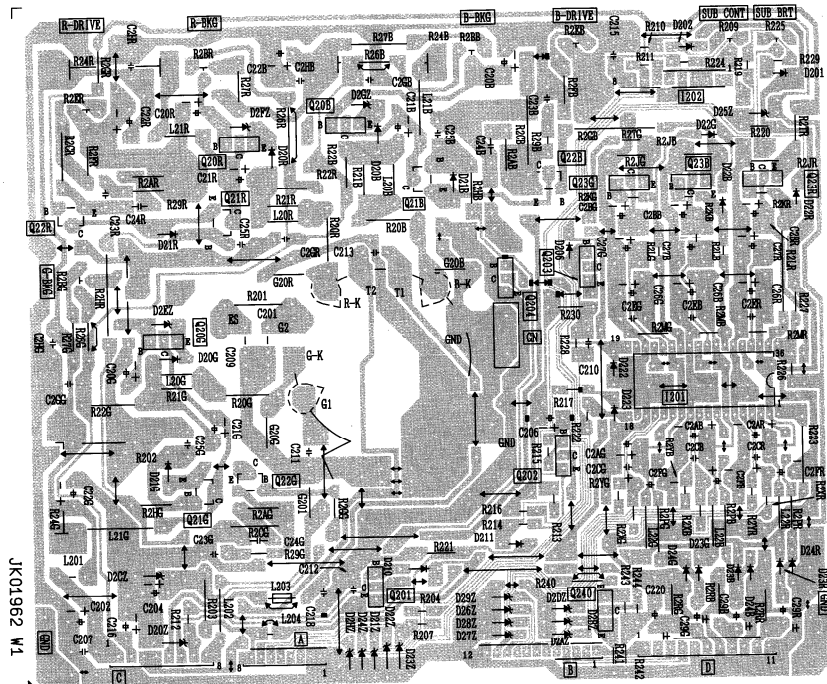


V CUT - 2

TC05 MAIN JK01052
1995, 8, 25

PRINTED WIRING BOARD

JK01052 P 071.9

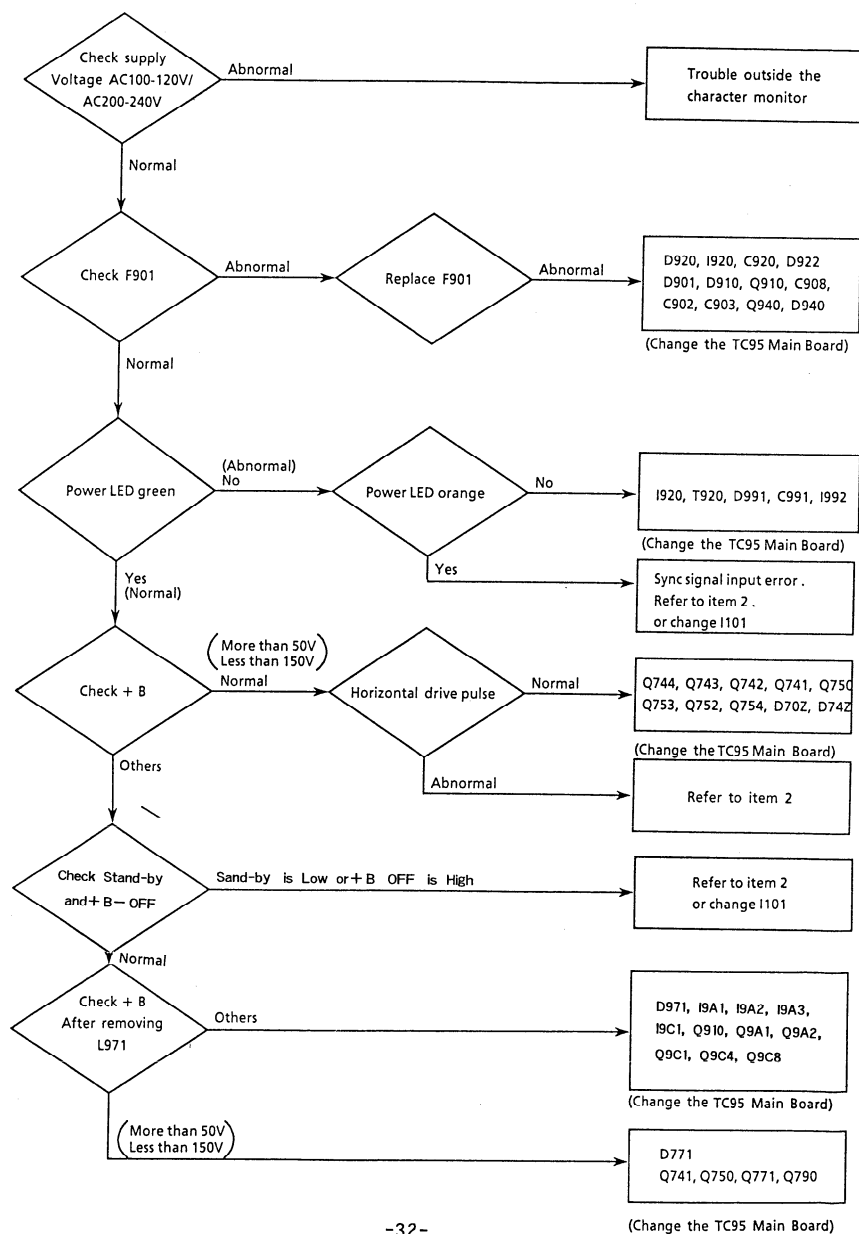


V CUT-2

TROUBLESHOOTING

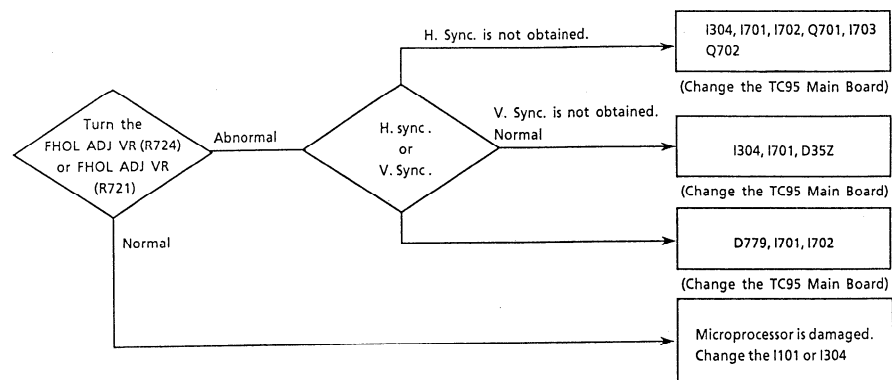
1. RASTER DOES NOT APPEAR

Relevant circuits: Power circuit, Horizontal deflection circuit,
High voltage limiter circuit



2. SYNCHRONIZATION IS NOT OBTAINED

Relevant circuit : Sync. input circuit, Deflection circuit



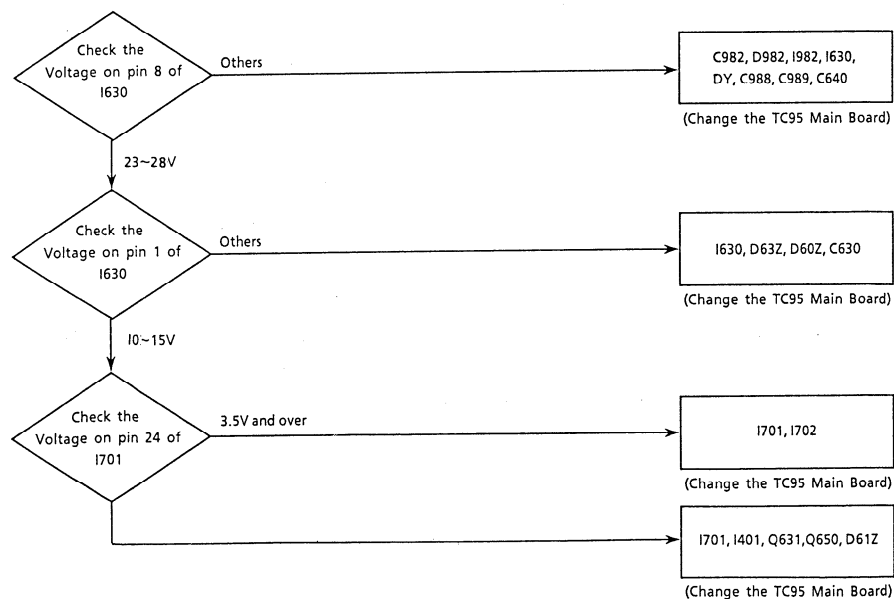
3. VERTICAL SINGLE LINE

Relevant circuit : Horizontal output circuit

DY faulty, D792, Q770, Q790, Q794, Q701, Q702, D72Z

4. HORIZONTAL SINGLE LINE

Relevant circuit : Vertical deflection circuit



3. Video circuit.

Prior to the video circuit adjustment, all sync and deflection circuit adjustment must be completed. The monitor must have been warmed up for more than 60 minutes.

Video signal must have 75 Ω impedance and correct voltage at the monitor input terminal.

Adjustment pre-setting.

1101) OUTPUT VOLTAGE LEVEL

FUNCTION	Pin No	OUT PUT VOLTAGE
R. COLOR	28 Pin	4.5V (7F)
G. COLOR	29 Pin	4.5V (7F)
B. COLOR	27 Pin	3.53V (42)
CONTRAST	25 Pin	1V (3F)
BRIGHT	38 Pin	3V (3F)

R225	Sub-Brightness	Mechanical center
R209	Sub-Contrast	Mechanical center
R841	ACL Adjust	Fully clock
R2ER	Red Drive	Tow o'clock
R2EB	Blue Drive	Mechanical Center
R27R	Red BKG	Fully anti-clockwise
R27G	Green BKG	Fully anti-clockwise
R27B	Blue BKG	Fully anti-clockwise

3.1 Cut off adjustment

- (1) Receive signal 70A with black pattern.
- (2) Connect a high impedance voltmeter (More than 1,000 M Ω) to Screen (G2) terminal on the Video board ass'y. Adjust screen voltage control on the FBT to obtain 480 ± 10 V.
- (3) Turn Green BKG control so that the later brightness becomes 0.35cd/m².
- (4) Turn Red and Blue BKG controls to read CIE coordinate $X=0.230$, $Y=0.260$ using CA100.

3.2 White balance adjustment

- (1) Receive signal 70A with a full screened white pattern. Set color select Factory 2.
- (2) Set user Brightness control center and Contrast control maximum.
- (3) Adjust the screen brightness to 115 cd/m² (34Ft-L) at the center of screen by adjusting sub Contrast control.
- (4) Adjust high intensity white balance by Red and Blue Drive adjustment to read CIE coordinate $X=0.313 \pm 0.015$, $Y=0.329 \pm 0.015$ using Minolta Color Analyzer CA100.

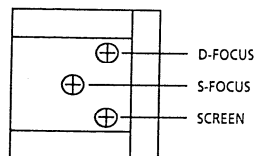
- (5) Adjust user contrast control to get 10 cd/m² (3Ft-L).
- (6) Adjust to the CIE coordinate shown in step (4) using Red, Blue BKG controls.
- (7) Adjust user Contrast control to 115 cd/m² (34Ft-L) and check for the CIE color coordinate. If it is not right, go back to step (4).

3.3 Brightness adjustment

- (1) White balance must have been adjusted prior to this adjustment. Set color select Factory 2.
- (2) Receive signal 70A with a blank pattern. (Black)
- (3) Set user Brightness and Contrast control at their maximum.
- (4) Ambient light measured on the surface of CRT must be lower than 50 Lux.
- (5) Adjust the screen brightness to 0.5 cd/m² (0.15Ft-L) at the center of screen by adjusting sub Brightness (R225) control.
- (6) Receive signal 70A with 60 x 60 mm white pattern. (Center of the Screen)
- (7) Adjust Sub-Contrast V(R209) control so that the brightness becomes 150 cd/m² (44Ft-L).
- (8) Receive signal 70A with a full screened white pattern.
- (9) Adjust the screen brightness to 115cd/m² (34Ft-L) at the center of screen by adjusting ACL adjust (R841) control.

4.1 Focus adjustment

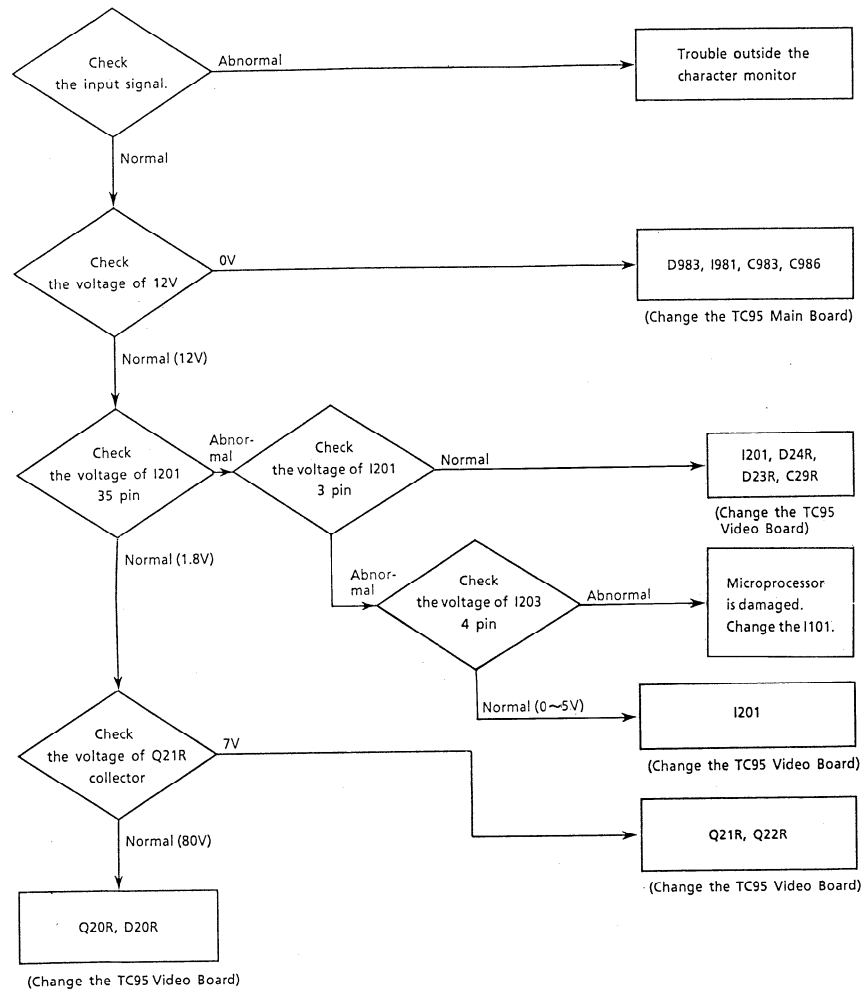
- (1) Receive signal 70A with a full screen "E" characters.
- (2) Set user Contrast control to its maximum.
- (3) Set user Brightness control so that the back ground raster is just diminished.
- (4) Adjust S-Focus control on the FBT so that focus at the middle points between the center of the screen to its best.
- (5) Adjust D-Focus control on the FBT so that focus at four corners of the screen to its best.



Position of FBT Controls

5. COLOR DOES NOT APPEAR

Relevant circuit : Video amplifier circuit



Note: Trouble in the red circuit is shown in this diagram as representative color.
Refer to : when green does not appear, and when blue does not appear.

REPLACEMENT PARTS LIST

PRODUCT SAFETY NOTE :

Components maked with a Δ have special characteristics important to safety.

Before replacing any of there components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual.

Don't degrade the safety of the receiver through improper servicing.

ABBREVIATIONS	Capacitor		CD: Ceramic Disk, PF: Polyester Film, EL: Electrolytic, PP: Polypropylene, PR: Paper, TA: Tantalum, TM: Trimer.
	Resistors		CF: Carbon film, WW: Wire Wound, FR: Fuse Resistor, MG: Metal Glazed, VR: Variable Resistor, CC: Carbon Composition, MF: Metal Oxide Film.
	Semiconductors	...	TR: Transistor, DI: Diode, ZD: Zener Diode, VA: Varistor, TH: Thermistor.

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
C101	0800353R	EL 470 MF $\pm$ 20% 16V	C20R	0255503R	EL 2.2 MF 160V
C102	0800291R	EL 10 MF 16V	C210	0890016M	CD 39 PF $\pm$ 5% 50V
C103	0890022M	CD 100 PF $\pm$ 10% 50V	C211	0247846R	CD 47 PF $\pm$ 5% 500V
C104	0800291R	EL 10 MF 16V	C212	0244171R	CD 0.01 MF $\pm$ 80-20% 50V
C105	0800291R	EL 10 MF 16V	C213	0244171R	CD 0.01 MF $\pm$ 80-20% 50V
C106	0800291R	EL 10 MF 16V	C215	0244171R	CD 0.01 MF $\pm$ 80-20% 50V
C107	0800291R	EL 10 MF 16V	C216	0255026R	EL 3.3 MF 200V
C108	0800291R	EL 10 MF 16V	C218	0880035R	PF 2200 PF $\pm$ 10% 50V
C109	0800291R	EL 10 MF 16V	C21B	0258121R	EL 2.2 MF 100V
C110	0276725R	PF 0.047MF $\pm$ 5%	C21G	0258121R	EL 2.2 MF 100V
C111	0244171R	CD 0.01 MF $\pm$ 80-20% 50V	C21R	0258121R	EL 2.2 MF 100V
C112	0244171R	CD 0.01 MF $\pm$ 80-20% 50V	C22B	0258127F	EL 47 MF 100V
C113	0244171R	CD 0.01 MF $\pm$ 80-20% 50V	C22G	0258127F	EL 47 MF 100V
C114	0244171R	CD 0.01 MF $\pm$ 80-20% 50V	C22R	0258127F	EL 47 MF 100V
C115	0244171R	CD 0.01 MF $\pm$ 80-20% 50V	C23B	0880035R	PF 2200 PF $\pm$ 10% 50V
C116	0244171R	CD 0.01 MF $\pm$ 80-20% 50V	C23G	0880035R	PF 2200 PF $\pm$ 10% 50V
C117	0244171R	CD 0.01 MF $\pm$ 80-20% 50V	C23R	0880035R	PF 2200 PF $\pm$ 10% 50V
C118	0244171R	CD 0.01 MF $\pm$ 80-20% 50V	C24B	0890023M	CD 120 PF $\pm$ 10% 50V
C119	0244171R	CD 0.01 MF $\pm$ 80-20% 50V	C24G	0890023M	CD 120 PF $\pm$ 10% 50V
C121	0270431R	PF 3300 PF $\pm$ 5% 50V	C24R	0890023M	CD 120 PF $\pm$ 10% 50V
C122	0244171R	CD 0.01 MF $\pm$ 80-20% 50V	C25B	0244171R	CD 0.01 MF $\pm$ 80-20% 50V
C123	0244171R	CD 0.01 MF $\pm$ 80-20% 50V	C25G	0244171R	CD 0.01 MF $\pm$ 80-20% 50V
C124	0800317R	EL 47 MF 16V	C25R	0244171R	CD 0.01 MF $\pm$ 80-20% 50V
C125	0890022M	CD 100 PF $\pm$ 10% 50V	C26B	0800317R	EL 47 MF $\pm$ 20% 16V
C181	0244171R	CD 0.01 MF $\pm$ 80-20% 50V	C26G	0800317R	EL 47 MF $\pm$ 20% 16V
C182	0244171R	CD 0.01 MF $\pm$ 80-20% 50V	C26R	0800317R	EL 47 MF $\pm$ 20% 16V
C191	0890008M	CD 10 PF $\pm$ 5% 50V	C27B	0800282R	EL 2.2 MF $\pm$ 20% 50V
C192	0890008M	CD 10 PF $\pm$ 5% 50V	C27G	0800282R	EL 2.2 MF $\pm$ 20% 50V
C193	0890008M	CD 10 PF $\pm$ 5% 50V	C27R	0800282R	EL 2.2 MF $\pm$ 20% 50V
C201	0245611F	CD 3300 PF $\pm$ 10% 1KV	C29B	0284625R	EL 2.2 MF 50V
C202	0800323R	EL 47 MF $\pm$ 20% 100V	C29G	0284625R	EL 2.2 MF 50V
C204	0800291R	EL 10 MF $\pm$ 20% 16V	C29R	0284625R	EL 2.2 MF 50V
C206	0800299R	EL 22 MF $\pm$ 20% 16V	C2AB	0800335R	EL 200 MF $\pm$ 20% 16V
C20B	0255503R	EL 2.2 MF $\pm$ 20% 160V	C2AG	0800335R	EL 200 MF $\pm$ 20% 16V
C20G	0255503R	EL 2.2 MF $\pm$ 20% 160V	C2AR	0800335R	EL 200 MF $\pm$ 20% 16V

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SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
C2BB	0800317R	EL 47 MF +-20% 16V	C545	0800291R	EL 10 MF 16V
C2BG	0800317R	EL 47 MF +-20% 16V	C551	0890035M	CD 1000 PF +-10% 50V
C2BR	0800317R	EL 47 MF +-20% 16V	C561	0284641R	EL 10 MF 35V
C2CB	0244171R	CD 0.01 MF +-80-20% 50V	C562	0243511R	CD 680 PF +-10% 500V
C2CG	0244171R	CD 0.01 MF +-80-20% 50V	C564	0247842R	CD 330 PF +- 5% 500V
C2CR	0244171R	CD 0.01 MF +-80-20% 50V	C579	0299731F	PP 5600 PF +- 5% 1.6kV
C2EB	0244171R	CD 0.01 MF +-80-20% 50V	C586	0244171R	CD 0.01 MF +-80-20% 50V
C2EG	0244171R	CD 0.01 MF +-80-20% 50V	C587	0244171R	CD 0.01 MF +-80-20% 50V
C2ER	0244171R	CD 0.01 MF +-80-20% 50V	C588	0244171R	CD 0.01 MF +-80-20% 50V
C2FB	0800282F	EL 2.2 MF +-20% 50V	C589	0244171R	CD 0.01 MF +-80-20% 50V
C2FG	0800282F	EL 2.2 MF +-20% 50V	C590	0800325R	EL 100 MF +-20% 10V
C2FR	0800282F	EL 2.2 MF +-20% 50V	C593	0800325R	EL 100 MF +-20% 10V
C2GB	0244501R	CD 1000 PF +-10% 500V	C594	0800301R	EL 22 MF +-20% 25V
C2GG	0244501R	CD 1000 PF +-10% 500V	C595	0800301R	EL 22 MF +-20% 25V
C2GR	0244501R	CD 1000 PF +-10% 500V	C601	0800279R	EL 1 MF +-20% 50V
C307	0880039R	PE 4700 PF +-10% 50V	C602	0880193R	PF 0.082MF +- 5% 50V
C308	0880055R	PE 0.068MF +-10% 50V	C603	0270436R	PF 8200 PF +- 5% 50V
C309	0800288R	EL 4.7 MF +-20% 50V	C604	0254505R	EL 100 MF 16V
C310	0800335R	EL 220 MF +-20% 16V	C605	0254505R	EL 100 MF 16V
C311	0244171R	CD 0.01 MF +-80-20% 50V	C606	0890026M	CD 220 PF +-10% 50V
C312	0800317R	EL 47 MF +-20% 16V	C630	0254505R	EL 100 MF 16V
C313	0244171R	CD 0.01 MF +-80-20% 50V	C631	0880203R	PF 0.047MF +- 5% 50V
C314	0890008M	CD 10 PF +- 5% 50V	C632	0255008F	EL 300 MF 35V
C315	0890022M	CD 100 PF +-10% 50V	C633	0880194R	PF 0.1 MF +- 5% 50V
C316	0800288R	EL 4.7 MF +-20% 50V	C635	0880055R	PF 0.068MF +-10% 50V
C317	0800288R	EL 4.7 MF +-20% 50V	C636	0253934F	EL 2200 MF 35V
C318	0800288R	EL 4.7 MF +-20% 50V	C637	0800308R	EL 33 MF +-20% 16V
C324	0880044R	PF 0.01 MF +-10% 50V	C638	0890026M	CD 220 PF +-10% 50V
C331	0890021M	CD 82 PF +-10% 50V	C639	0880045R	PF 0.012MF +-10% 50V
C401	0252396R	EL 10 MF 16V	C640	0800363F	EL 1000 MF 35V
C511	0880189R	PE 0.47 MF +- 5% 50V	C655	0890035M	CD 1000 PF +-10% 50V
C512	0800279R	EL 1 MF +-20% 50V	C660	0800301R	EL 22 MF +-20% 25V
C513	0244139R	CD 1000 PF +-10% 50V	C670	0800325R	EL 100 MF +-20% 10V
C514	0244139R	CD 1000 PF +-10% 50V	C671	0800291R	EL 10 MF +-20% 16V
C516	0880044R	PF 0.01 MF +-10% 50V	C698	0244171R	CD 0.01 MF +-80-20% 50V
C525	0890035M	CD 1000 PF +-10% 50V	C701	0880189R	PF 0.047MF +- 5% 50V
C529	0800301R	EL 22 MF +-20% 25V	C702	0254505R	EL 100 MF 16V
C531	0890035M	CD 1000 PF +-10% 50V	C703	0800279R	EL 1.0 MF +-20% 50V
C540	0244139R	CD 1000 PF +-10% 50V	C704	0236391R	CD 560 PF +- 5% 50V
C541	0800279R	EL 1 MF +-20% 50V	C705	0236396R	CD 1500 PF +- 5% 50V
C542	0880189R	PP 0.047MF +- 5% 50V	C706	0800288R	EL 4.7 MF +-20% 50V
C543	0880194R	PF 0.1 MF +- 5% 50V	C707	0800291R	EL 10 MF +-20% 16V

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SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
C709	0236401R	CD 300 PF +- 5% 50V	C783	0262789F	PP 0.22 MF +- 5% 200V
C710	0800282R	EL 2.2 MF +-20% 50V	C784	0262796F	PP 0.39 MF +- 5% 200V
C711	0800282R	EL 2.2 MF +-20% 50V	C785	0262801F	PP 0.56 MF +- 5% 200V
C712	AJ00024F	CD 1500 PF +-2% 50V	C787	0262805F	PP 0.82 MF +- 5% 200V
C713	0236391R	CD 560 PF +- 5% 50V	C791	0244505R	CD 2200 PF +-10% 500V
C714	0244171R	CD 0.01 MF +-80-20% 50V	C792	0244505R	CD 2200 PF +-10% 500V
C715	0800361F	EL 1000 MF +-20% 16V	C812	0258121R	EL 2.2 MF 100V
C716	0800291R	EL 10 MF +-20% 16V	C813	0800328R	EL 100 MF +20% 35V
C717	0236383R	CD 150 PF +- 5% 50V	C814	0890017M	CD 47 PF +- 5% 50V
C718	0270431R	PF 3300 PF +- 5% 50V	C821	0800336R	EL 220 MF +-20% 25V
C719	AJ00019F	CD 4700 PF +- 2% 50V	C822	0244501R	CD 1000 PF +-10% 500V
C720	0244171R	CD 0.01 MF +-80-20% 50V	C823	0800261R	EL 10 MF +-20% 16V
C722	0254505R	EL 100 MF 16V	C831	0800323R	EL 47 MF +-20% 100V
C723	0254505R	EL 100 MF 16V	C841	0890016M	CD 39 PF +- 5% 50V
C731	0800284R	EL 3.3 MF +-20% 50V	C870	0800325R	EL 100 MF +-20% 10V
C740	0880035R	PF 2200 PF +-10% 50V	C871	0800325R	EL 100 MF +-20% 10V
C741	0254505R	EL 100 MF 16V	C872	0890035M	CD 1000 PF +-10% 50V
C742	0254509R	EL 1000 MF 16V	C873	0890035M	CD 1000 PF +-10% 50V
C744	0249491F	CD 470 PF +-10% 2.5KV	Δ C902	AN00153S	PF 0.47 MF +-20% 250V
C745	0262408F	PP 2000 PF +- 5% 1.8KV	Δ C903	0262774	PP 0.22 MF +-20% 250V
C750	0254893F	EL 4.7 MF 160V	Δ C904	AJ00273F	CD 4700 PF 250V
C751	0890032M	CD 560 PF +-10% 50V	Δ C905	AJ00273F	CD 4700 PF 250V
C752	0276725R	PF 0.047MF +- 5%	Δ C908	0285345	EL 560 MF +-20% 400V
C753	0880048R	PF 0.022MF +-10% 50V	C909	0255005R	EL 47 MF 35V
Δ C754	0255529F	EL 100 MF +-20% 20V	C910	0245610R	CD 2200 PF +-10% 1KV
C755	0255025R	EL 2.2 MF 200V	C912	0244791	CD 4700 PF 250V
C756	0276725R	PF 0.047MF +- 5%	C913	0244791	CD 4700 PF 250V
C757	0800279R	EL 1 MF +-20% 50V	Δ C920	0284858F	EL 33 MF 400V
C758	0244107R	CD 3300 PF +-10% 50V	C921	0245610R	CD 2200 PF +-10% 1KV
C759	0880048R	PF 0.022MF +-10% 50V	C922	0881089R	PF 0.47 MF +- 5% 50V
C770	0880031R	PF 1000 PF +-10% 50V	C924	0255003R	EL 22 MF 35V
C771	0244105R	CD 2200 PF +-10% 50V	Δ C938	0249394F	CD 4700 PF +-20%
C773	0255003R	EL 22 MF 31.5V	Δ C939	0249394F	CD 4700 PF +-20%
C774	0249458F	CD 180 PF +-10% DC2.5KV	C940	0245610R	CD 2200 PF +-10% 1KV
C775	0262419F	PP 5100 PF +- 5% 1.8KV	C941	0880031R	PF 1000 PF +-10% 50V
C777	0247846R	CD 47 PF +- 5% 500V	C951	0880291R	EL 10 PF +-20% 16V
C778	0249492	CD 330 PF +-10% 2.5KV	C952	AJ00025R	CD 1200 PF +- 2% 50V
C779	0245608R	CD 1000 PF +-10% 1KV	C955	0800291R	EL 10 MF +-20% 16V
C77A	0800328R	EL 100 MF +-20% 35V	C956	0244102R	CD 1200 PF +-10% 50V
C77B	0249492	CD 330 PF +-10% 2.5KV	C960	0800291R	EL 10 MF +-20% 16V
C781	0262837F	PP 0.43 MF +- 5% 400V	C962	0880035R	PF 2200 PF +-10% 50V
C782	0262784F	PP 0.13 MF +- 5% 200V	C964	0800288R	EL 4.7 MF +-20% 50V

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SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
C966	0880046R	PF 0.015 MF $\pm$ 10% 50V	R108	0700041M	CF 100 OHM $\pm$ 5% 1/16W
C970	0249458F	CD 180 PF $\pm$ 10% DC2.5KV	R109	0700041M	CF 1K OHM $\pm$ 5% 1/16W
C971	AL00071	EL 470 MF $\pm$ 10% 200V	R110	0700027M	CF 1K OHM $\pm$ 5% 1/16W
C972	0255032F	EL 100 MF 200V	R111	0700049M	CF 4.7K OHM $\pm$ 5% 1/16W
C973	0244507R	CD 3300 PF $\pm$ 10% 500V	R112	0700054M	CF 10K OHM $\pm$ 5% 1/16W
C980	0243504R	CD 180 PF $\pm$ 10% 500V	R113	0700054M	CF 10K OHM $\pm$ 5% 1/16W
C981	0258128R	EL 100 MF 100V	R114	0700054M	CF 10K OHM $\pm$ 5% 1/16W
C982	0255011R	EL 2200 MF 31.5V	R115	0700054M	CF 10K OHM $\pm$ 5% 1/16W
C983	0254509R	EL 1000 MF 16V	R116	0700054M	CF 10K OHM $\pm$ 5% 1/16W
C984	0254021F	EL 1000 MF 10V	R117	0700027M	CF 100 OHM $\pm$ 5% 1/16W
C985	0254506R	EL 220 MF $\pm$ 20% 16V	R118	0700054M	CF 10K OHM $\pm$ 5% 1/16W
C986	0254505R	EL 100 MF 16V	R119	0700049M	CF 4.7K OHM $\pm$ 5% 1/16W
C988	0800293F	EL 10 MF $\pm$ 20% 35V	R120	0700067M	CF 1.2 OHM $\pm$ 5% 1/16W
C989	0800317R	EL 47 MF $\pm$ 20% 16V	R121	0700033M	CF 270 OHM $\pm$ 5% 1/16W
C98A	0243507R	CD 330 PF $\pm$ 10% 500V	R122	0700027M	CF 100 OHM $\pm$ 5% 1/16W
C98B	0244501R	CD 1000 PF $\pm$ 10% 500V	R123	0700027M	CF 100 OHM $\pm$ 5% 1/16W
C98C	0244507R	CD 3300 PF $\pm$ 10% 500V	R124	0700027M	CF 100 OHM $\pm$ 5% 1/16W
C98D	0800317R	EL 47 MF $\pm$ 20% 16V	R125	0700054M	CF 10K OHM $\pm$ 5% 1/16W
C98E	0243507R	CD 330 PF $\pm$ 10% 500V	R126	0700055M	CF 12K OHM $\pm$ 5% 1/16W
C991	0254509F	EL 1000 MF 16V	R127	0700041M	CF 1K OHM $\pm$ 5% 1/16W
C994	0800324R	EL 100 MF $\pm$ 20% 6.3V	R128	0700027M	CF 100 OHM $\pm$ 5% 1/16W
C999	0800335R	EL 220 MF $\pm$ 20% 16V	R129	0700027M	CF 100 OHM $\pm$ 5% 1/16W
C9A1	0800291R	EL 10 MF $\pm$ 20% 16V	R131	0700027M	CF 100 OHM $\pm$ 5% 1/16W
C9A2	0236394R	CD 0.001MF $\pm$ 5% 50V	R132	0700027M	CF 100 OHM $\pm$ 5% 1/16W
C9A3	0800291R	EL 10 MF $\pm$ 20% 16V	R133	0700041M	CF 1K OHM $\pm$ 5% 1/16W
C9A4	0244102R	CD 1200 MF $\pm$ 10% 50V	R134	0700027M	CF 100 OHM $\pm$ 5% 1/16W
C9A5	0800317R	EL 47 MF $\pm$ 20% 16V	R135	0700027M	CF 100 OHM $\pm$ 5% 1/16W
C9A7	0890024M	CD 150 PF $\pm$ 10% 50V	R136	0700027M	CF 100 OHM $\pm$ 5% 1/16W
C9A8	0880031R	PF 1000 PF $\pm$ 10% 50V	R137	0700027M	CF 100 OHM $\pm$ 5% 1/16W
C9C0	0800291R	EL 10 MF $\pm$ 20% 16V	R138	0700027M	CF 100 OHM $\pm$ 5% 1/16W
C9C1	0880046R	PF 0.015MF $\pm$ 10% 50V	R139	0700027M	CF 100 OHM $\pm$ 5% 1/16W
C9C2	0800291R	EL 10 MF $\pm$ 20% 16V	R140	0700027M	CF 100 OHM $\pm$ 5% 1/16W
C9C3	0800317R	EL 47 MF $\pm$ 20% 16V	R141	0700054M	CF 10K OHM $\pm$ 5% 1/16W
C9C8	0880031R	PF 1000 PF $\pm$ 10% 50V	R142	0700061M	CF 33K OHM $\pm$ 5% 1/16W
C9C9	0880201R	PF 0.33 PF $\pm$ 5% 50V	R143	0700055M	CF 12K OHM $\pm$ 5% 1/16W
R101	0700046M	CF 2.7K OHM $\pm$ 5% 1/16W	R144	0700057M	CF 18K OHM $\pm$ 5% 1/16W
R102	0700046M	CF 2.7K OHM $\pm$ 5% 1/16W	R145	0700055M	CF 12K OHM $\pm$ 5% 1/16W
R103	0700045M	CF 2.2K OHM $\pm$ 5% 1/16W	R146	0700057M	CF 18K OHM $\pm$ 5% 1/16W
R104	0700027M	CF 100 OHM $\pm$ 5% 1/16W	R147	0700056M	CF 15K OHM $\pm$ 5% 1/16W
R105	0700027M	CF 100 OHM $\pm$ 5% 1/16W	R148	0700064M	CF 56K OHM $\pm$ 5% 1/16W
R106	0700054M	CF 10K OHM $\pm$ 5% 1/16W	R149	0700046M	CF 15K OHM $\pm$ 5% 1/16W
R107	0700027M	CF 100 OHM $\pm$ 5% 1/16W	R150	0700064M	CF 56K OHM $\pm$ 5% 1/16W

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R151	0700061M	CF 33K OHM +-5% 1/16W	R223	0700027M	CF 100 OHM +-5% 1/16W
R152	0700061M	CF 33K OHM +-5% 1/16W	R224	0700056M	CF 15K OHM +-5% 1/16W
R161	0700045M	CF 2.2K OHM +-5% 1/16W	R225	0150300	VR 500 OHM B
R171	0700054M	CF 10K OHM +-5% 1/16W	R226	0700066M	CF 82K OHM +-5% 1/16W
R181	0700027M	CF 100 OHM +-5% 1/16W	R227	0700053M	CF 8.2K OHM +-5% 1/16W
R182	0700027M	CF 100 OHM +-5% 1/16W	R228	0700039M	CF 820K OHM +-5% 1/16W
R183	0700063M	CF 47K OHM +-5% 1/16W	R229	0187070M	CF 1.6K OHM +-5% 1/16W
R184	0700027M	CF 100 OHM +-5% 1/16W	R22B	0100117M	CF 150K OHM +-5% 1/8W
R185	0700027M	CF 100 OHM +-5% 1/16W	R22G	0100117M	CF 150K OHM +-5% 1/8W
R187	0700041M	CF 1K OHM +-5% 1/16W	R22R	0100117M	CF 150K OHM +-5% 1/8W
R191	0700032M	CF 220 OHM +-5% 1/16W	R230	0700038M	CF 680 OHM +-5% 1/16W
R192	0700032M	CF 220 OHM +-5% 1/2W	R241	0700045M	CF 2.2K OHM +-5% 1/16W
R193	0700033M	CF 220 OHM +-5% 1/16W	R242	0700062M	CF 39K OHM +-5% 1/16W
R195	0700056M	CF 15K OHM +-5% 1/16W	R243	0700027M	CF 100 OHM +-5% 1/16W
R196	0700036M	CF 470 OHM +-5% 1/16W	R244	0700058M	CF 22K OHM +-5% 1/16W
R197	0700038M	CF 680 OHM +-5% 1/16W	R24B	0145035	MF 560 OHM + 5% 7W
R198	0187066M	CF 1.1K OHM +-5% 1/16W	R24G	0145035	MF 560 OHM +-5% 7W
R199	0700045M	CF 2.2K OHM +-5% 1/16W	R24R	0145035	MF 560 OHM +-5% 7W
R201	0179549M	MG 100K OHM +-5% 1/8W	R27B	0700063M	CF 47K OHM +-5% 1/16W
R202	0100109M	CF 68K OHM +-5% 1/8W	R27G	0700063M	CF 47K OHM +-5% 1/16W
R203	0188125M	CF 390 OHM +-5% 1/8W	R27R	0700063M	CF 47K OHM +-5% 1/16W
R204	0700041M	CF 1K OHM +-5% 1/16W	R29B	0187070	CF 1.6K OHM +-5% 1/16W
R207	0700061M	CF 33K OHM +-5% 1/16W	R29G	0187070	CF 1.6K OHM +-5% 1/16W
R209	0150302	CR 2K OHM B	R29R	0187070	CF 1.6K OHM +-5% 1/16W
R20B	0114053M	CF 33K OHM +-5% 1/2W	R2AB	0100023M	CF 18 OHM +-5% 1/8W
R20G	0114053M	CF 33K OHM +-5% 1/2W	R2AG	0100021M	CF 15 OHM +-5% 1/8W
R20R	0114053M	CF 33K OHM +-5% 1/2W	R2AR	0100021M	CF 15 OHM +-5% 1/8W
R210	0700046M	CF 2.7K OHM +-5% 1/16W	R2BB	0150309	VR 100K OHM B
R211	0700061M	CF 33K OHM +-5% 1/16W	R2BG	0150309	VR 100K OHM B
R212	0700041M	CF 1K OHM +-5% 1/16W	R2BR	0150309	VR 100K OHM B
R213	0700048M	CF 3.9K OHM +-5% 1/16W	R2CB	0113701M	CF 10 OHM +-5% 1/2W
R214	0700051M	CF 5.6K OHM +-5% 1/16W	R2CG	0113713M	CF 33 OHM +-5% 1/2W
R215	0700027M	CF 100 OHM +-5% 1/16W	R2CR	0113698M	CF 8.2 OHM +-5% 1/2W
R216	0700049M	CF 4.7K OHM +-5% 1/16W	R2EB	0150109	VR 200 OHM B
R217	0700054M	CF 10K OHM +-5% 1/16W	R2ER	0150109	VR 200 OHM B
R219	0700044M	CF 1.8K OHM +-5% 1/16W	R2FB	0100029M	CF 33 OHM +-5% 1/8W
R21B	0700061M	CF 680 OHM +-5% 1/8W	R2FR	0100029M	CF 33 OHM +-5% 1/8W
R21G	0700061M	CF 680 OHM +-5% 1/8W	R2GB	0100027M	CF 100 OHM +-5% 1/16W
R21R	0700061M	CF 680 OHM +-5% 1/8W	R2GG	0100022M	CF 39 OHM +-5% 1/16W
R220	0700041M	CF 1K OHM +-5% 1/16W	R2GR	0100022M	CF 39 OHM +-5% 1/16W
R221	0700071M	CF 1.8K OHM +-5% 1/8W	R2HB	0100045M	CF 150 OHM +-5% 1/8W
R222	0700027M	CF 100 OHM +-5% 1/16W	R2HG	0100045M	CF 150 OHM +-5% 1/8W

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R2HR	0100045M	CF 150 OHM $\pm$ 5% 1/8W	R328	0700041M	CF 1K OHM $\pm$ 5% 1/16W
R2JB	0100043M	CF 120 OHM $\pm$ 5% 1/8W	R331	0700056M	CF 15K OHM $\pm$ 5% 1/16W
R2JG	0100043M	CF 120 OHM $\pm$ 5% 1/8W	R332	0700043M	CF 1.5K OHM $\pm$ 5% 1/16W
R2JR	0100043M	CF 120 OHM $\pm$ 5% 1/8W	R335	0700027M	CF 100 OHM $\pm$ 5% 1/16W
R2KB	0700028M	CF 120 OHM $\pm$ 5% 1/16W	R401	0100065M	CF 1.0K OHM $\pm$ 5% 1/8W
R2KG	0700028M	CF 120 OHM $\pm$ 5% 1/16W	R402	0100082M	CF 5.1K OHM $\pm$ 5% 1/8W
R2KR	0700028M	CF 120 OHM $\pm$ 5% 1/16W	R403	0700047M	CF 3.3K OHM $\pm$ 5% 1/16W
R2LB	0700027M	CF 100 OHM $\pm$ 5% 1/16W	R404	0700067M	CF 100K OHM $\pm$ 5% 1/16W
R2LG	0700027M	CF 100 OHM $\pm$ 5% 1/16W	R405	0187092M	CF 13K OHM $\pm$ 5% 1/16W
R2LR	0700027M	CF 100 OHM $\pm$ 5% 1/16W	R406	0110107S	CF 27K OHM $\pm$ 5% 1W
R2MB	0700036M	CF 470 OHM $\pm$ 5% 1/16W	R500	0100041M	CF 100 OHM $\pm$ 5% 1/8W
R2MG	0700036M	CF 470 OHM $\pm$ 5% 1/16W	R511	0700027M	CF 100 OHM $\pm$ 5% 1/16W
R2MR	0700036M	CF 470 OHM $\pm$ 5% 1/16W	R512	0700054M	CF 10K OHM $\pm$ 5% 1/16W
R2PB	0700029M	CF 150 OHM $\pm$ 5% 1/16W	R514	0700053M	CF 5.1K OHM $\pm$ 5% 1/16W
R2PG	0700029M	CF 150 OHM $\pm$ 5% 1/16W	R515	0119648M	MF 51K OHM $\pm$ 5% 1/8W
R2PR	0700029M	CF 150 OHM $\pm$ 5% 1/16W	R516	0700051M	CF 5.6K OHM $\pm$ 5% 1/16W
R2RB	0188921M	CF 750 OHM $\pm$ 5% 1/8W	R517	0700059M	CF 27K OHM $\pm$ 5% 1/16W
R2RG	0188921M	CF 750 OHM $\pm$ 5% 1/8W	R525	0700063M	CF 47K OHM $\pm$ 5% 1/16W
R2RR	0188921M	CF 750 OHM $\pm$ 5% 1/8W	R526	0700063M	CF 47K OHM $\pm$ 5% 1/16W
R2TG	0700022M	CF 39 OHM $\pm$ 5% 1/16W	R527	0700059M	CF 27K OHM $\pm$ 5% 1/16W
R2TR	0700024M	CF 36 OHM $\pm$ 5% 1/16W	R528	0700047M	CF 3.3K OHM $\pm$ 5% 1/16W
R2XB	0700027M	CF 100 OHM $\pm$ 5% 1/16W	R529	0700044M	CF 1.8K OHM $\pm$ 5% 1/16W
R2XG	0700027M	CF 100 OHM $\pm$ 5% 1/16W	R530	0700059M	CF 27K OHM $\pm$ 5% 1/16W
R2XR	0700027M	CF 100 OHM $\pm$ 5% 1/16W	R531	0700055M	CF 12K OHM $\pm$ 5% 1/16W
R2YB	0700036M	CF 470 OHM $\pm$ 5% 1/16W	R535	0160499	VR 20K OHM B
R2YG	0700036M	CF 470 OHM $\pm$ 5% 1/16W	R539	0700063M	CF 47K OHM $\pm$ 5% 1/16W
R2YR	0700036M	CF 470 OHM $\pm$ 5% 1/16W	R541	0700027M	CF 100 OHM $\pm$ 5% 1/16W
R301	0700041M	CF 1K OHM $\pm$ 5% 1/16W	R542	0700056M	CF 15K OHM $\pm$ 5% 1/16W
R302	0700041M	CF 1K OHM $\pm$ 5% 1/16W	R543	0700054M	CF 10K OHM $\pm$ 5% 1/16W
R303	0700041M	CF 1K OHM $\pm$ 5% 1/16W	R551	0700055M	CF 12K OHM $\pm$ 5% 1/16W
R304	0700041M	CF 1K OHM $\pm$ 5% 1/16W	R552	0700052M	CF 6.8K OHM $\pm$ 5% 1/16W
R317	0700038M	CF 680 OHM $\pm$ 5% 1/16W	R554	0700063M	CF 47K OHM $\pm$ 5% 1/16W
R318	0700038M	CF 680 OHM $\pm$ 5% 1/16W	R555	0700059M	CF 27K OHM $\pm$ 5% 1/16W
R319	0700027M	CF 100 OHM $\pm$ 5% 1/16W	R556	0187100M	CF 30K OHM $\pm$ 5% 1/16W
R320	0700027M	CF 100 OHM $\pm$ 5% 1/16W	R559	0700063M	CF 47K OHM $\pm$ 5% 1/16W
R321	0700066M	CF 82K OHM $\pm$ 5% 1/16W	R561	0113793M	CF 56K OHM $\pm$ 5% 1/2W
R322	0700043M	CF 1.5K OHM $\pm$ 5% 1/16W	R562	0113793M	CF 68K OHM $\pm$ 5% 1/2W
R323	0700058M	CF 22K OHM $\pm$ 5% 1/16W	R563	0113795M	CF 56K OHM $\pm$ 5% 1/2W
R324	0187108M	CF 62K OHM $\pm$ 5% 1/16W	R564	0113793M	CF 56K OHM $\pm$ 5% 1/2W
R325	0187106M	CF 51K OHM $\pm$ 5% 1/16W	R565	0113795M	CF 68K OHM $\pm$ 5% 1/2W
R326	0700045M	CF 2.2K OHM $\pm$ 5% 1/16W	R566	0113795M	CF 68K OHM $\pm$ 5% 1/2W
R327	0700045M	CF 2.2K OHM $\pm$ 5% 1/16W	R567	0700054M	CF 10K OHM $\pm$ 5% 1/16W

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R569	0113737M	CF 330 OHM $\pm 5\%$ 1/2W	R703	0700062M	CF 39K OHM $\pm 5\%$ 1/16W
R570	0700057M	CF 18K OHM $\pm 5\%$ 1/16W	R704	0700054M	CF 10K OHM $\pm 5\%$ 1/16W
R571	0113750M	CF 1K OHM $\pm 5\%$ 1/2W	R705	0700054M	CF 10K OHM $\pm 5\%$ 1/16W
R572	0188141M	CF 5.6K OHM $\pm 5\%$ 1/2W	R706	0700058M	CF 22K OHM $\pm 5\%$ 1/16W
R574	0113815M	CF 470K OHM $\pm 5\%$ 1/2W	R707	0119613M	MF 1.8K OHM $\pm 5\%$ 1/8W
R575	0113815M	CF 470K OHM $\pm 5\%$ 1/2W	R708	0700044M	CF 1.8K OHM $\pm 5\%$ 1/16W
R576	0100105M	CF 47K OHM $\pm 5\%$ 1/8W	R709	0113717M	CF 47 OHM $\pm 5\%$ 1/2W
R579	0119505G	FR 2.2K OHM $\pm 5\%$ 1/4W	R710	0700058M	CF 22K OHM $\pm 5\%$ 1/16W
R581	0700063M	CF 47K OHM $\pm 5\%$ 1/16W	R711	0100065M	CF 1.0K OHM $\pm 5\%$ 1/8W
R590	0113731M	CF 180K OHM $\pm 5\%$ 1/12W	R712	0700025M	CF 68K OHM $\pm 5\%$ 1/16W
R601	0700054M	CF 10K OHM $\pm 5\%$ 1/16W	R713	0700041M	CF 1K OHM $\pm 5\%$ 1/16W
R602	0700054M	CF 10K OHM $\pm 5\%$ 1/16W	R714	0700063M	CF 47K OHM $\pm 5\%$ 1/16W
R603	0100127M	CF 390K OHM $\pm 5\%$ 1/8W	R715	0700066M	CF 82K OHM $\pm 5\%$ 1/16W
R631	0700054M	CF 10K OHM $\pm 5\%$ 1/16W	R716	0700037M	CF 560 OHM $\pm 5\%$ 1/16W
R632	0113754M	CF 1.5K OHM $\pm 5\%$ 1/2W	R717	0150133	VR 500 OHM B
R633	0119505G	FR 2.2K OHM $\pm 5\%$ 1/4W	R718	0700047M	CF 3.3K OHM $\pm 5\%$ 1/16W
R634	0113728M	CF 130K OHM $\pm 5\%$ 1/2W	R719	0700041M	CF 1K OHM $\pm 5\%$ 1/16W
R635	0101419S	MG 1 OHM $\pm 5\%$ 2W	R720	0700052M	CF 6.8K OHM $\pm 5\%$ 1/16W
R636	0187068M	CF 1.3K OHM $\pm 5\%$ 1/16W	R721	0160497	VR 5K OHM B
R637	0700029M	CF 150 OHM $\pm 5\%$ 1/16W	R722	0700054M	CF 10K OHM $\pm 5\%$ 1/16W
R638	0700044M	CF 1.8K OHM $\pm 5\%$ 1/16W	R723	0700058M	CF 22K OHM $\pm 5\%$ 1/16W
R639	0700045M	CF 2.2K OHM $\pm 5\%$ 1/16W	R724	0160497	VR 5K OHM B
R640	0700034M	CF 330 OHM $\pm 5\%$ 1/16W	R725	0700064M	CF 56K OHM $\pm 5\%$ 1/16W
R642	0700034M	CF 330 OHM $\pm 5\%$ 1/16W	R726	0700051M	CF 5.6K OHM $\pm 5\%$ 1/16W
R643	0700063M	CF 47K OHM $\pm 5\%$ 1/16W	R727	0700054M	CF 10K OHM $\pm 5\%$ 1/16W
R644	0150301	VR 1K OHM B	R731	0700043M	CF 1.5K OHM $\pm 5\%$ 1/16W
R645	0700044M	CF 1.8K OHM $\pm 5\%$ 1/16W	R732	0700063M	CF 47K OHM $\pm 5\%$ 1/16W
R646	0700046M	CF 2.7K OHM $\pm 5\%$ 1/16W	R733	0160498	VR 10K OHM B
R650	0700063M	CF 47K OHM $\pm 5\%$ 1/16W	R740	0700055M	CF 12K OHM $\pm 5\%$ 1/16W
R651	0700064M	CF 56K OHM $\pm 5\%$ 1/16W	R741	0700049M	CF 4.7K OHM $\pm 5\%$ 1/16W
R652	0700041M	CF 1K OHM $\pm 5\%$ 1/16W	R742	0700049M	CF 4.7K OHM $\pm 5\%$ 1/16W
R653	0700041M	CF 1K OHM $\pm 5\%$ 1/16W	R743	0113697M	CF 7.5 OHM $\pm 5\%$ 1/2W
R654	0700054M	CF 10K OHM $\pm 5\%$ 1/16W	R744	0700049M	CF 4.7K OHM $\pm 5\%$ 1/16W
R655	0187080M	CF 4.3K OHM $\pm 5\%$ 1/16W	R750	0110339S	MF 560 OHM $\pm 5\%$ 3W
R660	0700043M	CF 1.5K OHM $\pm 5\%$ 1/16W	R751	0188148M	CF 22K OHM $\pm 5\%$ 1/2W
R661	0700056M	CF 15K OHM $\pm 5\%$ 1/16W	R752	0188162M	CF 220K OHM $\pm 5\%$ 1/2W
R664	0700053M	CF 8.2K OHM $\pm 5\%$ 1/16W	R753	0188166M	CF 470K OHM $\pm 5\%$ 1/2W
R665	0700057M	CF 18K OHM $\pm 5\%$ 1/16W	R754	0700046M	CF 2.7K OHM $\pm 5\%$ 1/16W
R668	0110221S	MF 100 OHM $\pm 5\%$ 2W	Δ R755	0119629M	MF 8.2K OHM $\pm 1\%$ 1/8W
R688	0700027M	CF 100 OHM $\pm 5\%$ 1/16W	Δ R756	0150632	VR 3K OHM B
R701	0700041M	CF 1K OHM $\pm 5\%$ 1/16W	Δ R757	0119635M	MF 15K OHM $\pm 1\%$ 1/8W
R702	0700041M	CF 1K OHM $\pm 5\%$ 1/16W	R758	0188142M	CF 6.8K OHM $\pm 5\%$ 1/2W

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SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
R759	0100077M	CF 3.3K OHM $\pm 5\%$ 1/8W	R841	0150309	VR 100K OHM B
R75A	0179536	MG 1M OHM $\pm 5\%$ 1/8W	R842	0100111M	CF 82K OHM $\pm 5\%$ 1/8W
R75H	0119630M	MF 9.1K OHM $\pm 1\%$ 1/8W	R870	0187062M	CF 750 OHM $\pm 5\%$ 1/16W
R75L	0119628M	MF 7.5K OHM $\pm 1\%$ 1/8W	R871	0700032M	0F 220 OHM $\pm 5\%$ 1/16W
R760	0119505G	FR 2.2 OHM $\pm 5\%$ 1/4W	R872	0150137	VR 10K OHM B
Δ R761	0119651M	MG 68K OHM $\pm 1\%$ 1/8W	R873	0700032M	CF 220 OHM $\pm 5\%$ 1/16W
Δ R762	0119651M	MG 68K OHM $\pm 1\%$ 1/8W	R874	0700041M	CF 1K OHM $\pm 5\%$ 1/16W
Δ R763	0119623M	FR 4.7K OHM $\pm 1\%$ 1/8W	R875	0119512G	FR 1 OHM $\pm 5\%$ 1/4W
R770	0700024M	CF 56K OHM $\pm 5\%$ 1/16W	R890	0100071M	CF 1.8K OHM $\pm 5\%$ 1/8W
R771	0700054M	CF 10K OHM $\pm 5\%$ 1/16W	Δ R901	0139015G	CC 1M OHM $\pm 20\%$ 1/2W
R772	0147662	WW 150 OHM $\pm 5\%$ 7W	Δ R903	CJ00081	THERMISTOR NTH18D100LA
R773	0113696M	CF 6.8K OHM $\pm 5\%$ 1/2W	R904	0140921S	MF 27K OHM $\pm 5\%$ 15W
R774	0116960M	MF 0.27 OHM $\pm 5\%$ 1W	R905	0188131M	CF 1K OHM $\pm 5\%$ 1/2W
R776	0188104M	CF 10K OHM $\pm 5\%$ 1/2W	R906	0113771M	CF 10K OHM $\pm 5\%$ 1/2W
R778	0100093M	CF 15K OHM $\pm 5\%$ 1/8W	R910	0140952M	MF 120K OHM $\pm 5\%$ 1/2W
R779	0100103M	CF 39K OHM $\pm 5\%$ 1/8W	Δ R912	0100057M	CF 470 OHM $\pm 5\%$ 1/8W
R780	0113729M	CF 150 OHM $\pm 5\%$ 1/2W	Δ R913	0140961M	MF 560K OHM $\pm 5\%$ 1/2W
R781	0700054M	CF 10K OHM $\pm 5\%$ 1/16W	R915	0700054M	CF 10K OHM $\pm 5\%$ 1/16W
R783	0700054M	CF 10K OHM $\pm 5\%$ 1/16W	R916	0113705M	CF 15 OHM $\pm 5\%$ 1/2W
R785	0700054M	CF 10K OHM $\pm 5\%$ 1/16W	Δ R91A	0119839M	MF 0.56 OHM $\pm 5\%$ 1W
R787	0700054M	CF 10K OHM $\pm 5\%$ 1/16W	Δ R91B	0119839M	MF 0.56 OHM $\pm 5\%$ 1W
R789	0700054M	CF 10K OHM $\pm 5\%$ 1/16W	R921	0140954M	MF 180K OHM $\pm 5\%$ 1/2W
R791	0188144M	CF 10K OHM $\pm 5\%$ 1/2W	R922	0140955M	MF 220K OHM $\pm 5\%$ 1/2W
R792	0100089M	CF 10K OHM $\pm 5\%$ 1/8W	R923	0113742M	MF 470 OHM $\pm 5\%$ 1/2W
R794	0100067M	CF 1.2K OHM $\pm 5\%$ 1/8W	Δ R925	0113690M	MF 3.9 OHM $\pm 5\%$ 1/2W
R797	0110124S	MF 130 OHM $\pm 5\%$ 1W	R92A	0113793M	MF 56K OHM $\pm 5\%$ 1/2W
R805	0700038M	CF 680 OHM $\pm 5\%$ 1/16W	R92B	0113793M	MF 56K OHM $\pm 5\%$ 1/2W
R807	0700034M	CF 330 OHM $\pm 5\%$ 1/16W	Δ R92T	2340821	THRMISTOR(200V)
R808	0700034M	CF 330 OHM $\pm 5\%$ 1/16W	R940	0140951M	MF 100K OHM $\pm 5\%$ 1/2W
R811	0100071M	CF 1.8K OHM $\pm 5\%$ 1/8W	R941	0700059M	CF 27K OHM $\pm 5\%$ 1/16W
R812	0700041M	CF 1K OHM $\pm 5\%$ 1/16W	R942	0160493	VR 500 OHM B
R813	0700051M	CF 5.6K OHM $\pm 5\%$ 1/16W	R943	0187078M	CF 3.6K OHM $\pm 5\%$ 1/16W
R815	0700038M	CF 680 OHM $\pm 5\%$ 1/16W	R945	0700059M	CF 27K OHM $\pm 5\%$ 1/16W
R820	0100113M	CF 100K OHM $\pm 5\%$ 1/8W	R946	0113705M	CF 15 OHM $\pm 5\%$ 1/2W
R821	0100051M	CF 270 OHM $\pm 5\%$ 1/8W	R947	0700054M	CF 10K OHM $\pm 5\%$ 1/16W
R823	0100121M	CF 220K OHM $\pm 5\%$ 1/8W	R948	0700063M	CF 47K OHM $\pm 5\%$ 1/16W
R825	0700055M	CF 12K OHM $\pm 5\%$ 1/16W	R949	0700043M	CF 1.5K OHM $\pm 5\%$ 1/16W
R827	0700061M	CF 33K OHM $\pm 5\%$ 1/16W	Δ R94A	0119722M	MF 1 OHM $\pm 5\%$ 1W
R829	0700048M	CF 3.9K OHM $\pm 5\%$ 1/16W	Δ R94B	0119722M	MF 1 OHM $\pm 5\%$ 1W
R82A	0700059M	CF 27K OHM $\pm 5\%$ 1/16W	R951	0113754M	CF 1.5K OHM $\pm 5\%$ 1/2W
R831	0100105M	CF 47K OHM $\pm 5\%$ 1/8W	R955	0100119M	CF 180K OHM $\pm 5\%$ 1/8W
R832	0100129M	CF 470K OHM $\pm 5\%$ 1/8W	Δ R956	0187080M	CF 4.3K OHM $\pm 5\%$ 1/16W

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Δ R958	0140961M	MF 560K OHM $\pm$ 5% 1/2W	R9C1	0100069M	CF 1.5K OHM $\pm$ 5% 1/8W
R959	0100057M	CF 470 OHM $\pm$ 5% 1/8W	R9C2	0700067M	CF 100K OHM $\pm$ 5% 1/16W
R95A	0119634M	MG 13K OHM $\pm$ 5% 1/8W	R9C3	0700058M	CF 22K OHM $\pm$ 5% 1/16W
R95B	0160496	VR 3K OHM B	Δ R9C5	0700047M	CF 3.3K OHM $\pm$ 5% 1/16W
R95D	0113754M	CF 1.5K OHM $\pm$ 5% 1/2W	R9C6	0700054M	CF 10K OHM $\pm$ 5% 1/16W
R960	0187084M	CF 6.2K OHM $\pm$ 5% 1/16W	R9D1	0700054M	CF 10K OHM $\pm$ 5% 1/16W
R961	0700047M	CF 3.3K OHM $\pm$ 5% 1/16W	R9E1	0119636M	MF 16K OHM $\pm$ 5% 1/8W
R962	0700034M	CF 330 OHM $\pm$ 5% 1/16W	R9E2	0119619M	MF 3.3K OHM $\pm$ 5% 1/8W
R963	0700054M	CF 10K OHM $\pm$ 5% 1/16W	R9E6	0119599M	MG 470 OHM $\pm$ 5% 1/8W
R964	0700054M	CF 10K OHM $\pm$ 5% 1/16W	R9F1	0100061M	CF 680 OHM $\pm$ 5% 1/8W
R965	0700043M	CF 1.5K OHM $\pm$ 5% 1/16W	I101	CP00883U	IC PCE84C882/019
R966	0700067M	CF 100K OHM $\pm$ 5% 1/16W	I102	CP00871U	IC M62393P
R967	0700061M	CF 33K OHM $\pm$ 5% 1/16W	I103	CP01991U	IC ST24C02FB6
Δ R971	0119645M	MF 39K OHM $\pm$ 1% 1/8W	I104	CZ00301U	IC 24LC 21- /P
Δ R972	0119649M	MF 56K OHM $\pm$ 1% 1/8W	I105	2003522R	IC PST572D2- 2
Δ R973	0160494	VR 1K OHM B	I201	CP00531U	IC M52320SP
Δ R974	0119620M	MF 3.6K OHM $\pm$ 1% 1/8W	I202	2388304	IC XRA4558N
R981	0119617M	MF 2.7K OHM $\pm$ 1% 1/8W	I304	CP00521U	IC M52346SP
R982	0700058M	CF 22K OHM $\pm$ 5% 1/16W	I401	2388304	IC XRA4558N
R983	0700054M	CF 10K OHM $\pm$ 5% 1/16W	I501	2388304	IC XRA4558N
R992	0700054M	CF 10K OHM $\pm$ 5% 1/16W	I505	2020581	IC CXA1470AS
R995	0700054M	CF 10K OHM $\pm$ 5% 1/16W	I507	2020591	IC M5207L05
R996	0700054M	CF 10K OHM $\pm$ 5% 1/16W	I508	2003621	IC NJM072
R997	0700066M	CF 82K OHM $\pm$ 5% 1/16W	I630	2003541	IC LA7838
R998	0100049M	CF 220 OHM $\pm$ 5% 1/8W	I631	2388304	IC XR14558N
R999	0700053M	CF 8.2K OHM $\pm$ 5% 1/16W	I701	2020572	IC LA7860- H
R9A0	0700063M	CF 47K OHM $\pm$ 5% 1/16W	I702	2362051	IC HD74LS08P
R9A1	0100089M	CF 10K OHM $\pm$ 5% 1/8W	I703	2388304	IC XRA4558N
R9A3	0700043M	CF 1.5K OHM $\pm$ 5% 1/16W	Δ I920	2000871	IC STR- D1706
R9A4	0113754M	CF 1.5K OHM $\pm$ 5% 1/2W	Δ I940	2366721	IC UPCL394C
R9A5	0113754M	CF 1.5K OHM $\pm$ 5% 1/2W	I981	2004663	IC PQ12RF11
R9A7	0700058M	CF 22K OHM $\pm$ 5% 1/16W	I982	2000641	IC SI- 3240C(LINEAR)
R9A8	0700038M	CF 680 OHM $\pm$ 5% 1/16W	I992	2366361	IC AN7805
R9A9	0700049M	CF 4.7K OHM $\pm$ 5% 1/16W	Δ I9A1	2366721	IC UPCL394C
Δ R9AT	2340361	THRMTSTOR	Δ I9A2	CF10432G	IC PC123FY8
R9B0	0100119M	CF 180K OHM $\pm$ 5% 1/8W	Δ I9A3	CF10432G	IC PC123FY8
Δ R9B1	0700052M	CF 6.8K OHM $\pm$ 5% 1/16W	I9C1	2388304	IC XRA4558N
Δ R9B2	0700036M	CF 470 OHM $\pm$ 5% 1/16W	Q161	2325721M	TR 2SC1740S
R9B3	0187084M	CF 6.2K OHM $\pm$ 5% 1/16W	Q191	2325713M	TR 2SA933S (R)
R9B4	0700045M	CF 2.2K OHM $\pm$ 5% 1/16W	Q201	2325721M	TR 2SC1740S
R9B6	0700034M	CF 330 OHM $\pm$ 5% 1/16W	Q202	2325721M	TR 2SC1740S
R9B7	0700049M	CF 4.7K OHM $\pm$ 5% 1/16W	Q203	2325721M	TR 2SC1740S

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SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
Q20B	2327883M	TR 2SA1207S/T	Q775	2390871U	TR IRF630
Q20G	2327883M	TR 2SA1207S/T	Q776	2326872R	TR DTC114E
Q20R	2327883M	TR 2SA1207S/T	Q777	2390871U	TR IRF630
Q21B	2327481F	TR 2SC3954 D/E	Q778	2326872R	TR DTC114E
Q21G	2327481F	TR 2SC3954 D/E	Q779	2390871U	TR IRF630
Q21R	2327481F	TR 2SC3954 D/E	Q780	2326872R	TR DTC114E
Q22B	2327471F	TR 2SC3950 D/E	Q781	2390871U	TR IRF630
Q22G	2327471F	TR 2SC3950 D/E	Q782	2326872R	TR DTC114E
Q22R	2327471F	TR 2SC3950 D/E	Q794	2324321M	TR 2SC2610-05
Q23B	2320144M	TR 2SC1906	Q810	2325721M	TR 2SC1740S
Q23G	2320144M	TR 2SC1906	Q811	2325721M	TR 2SC1740S
Q23R	2320144M	TR 2SC1906	Q812	2325713M	TR 2SA933S (R)
Q301	2325721M	TR 2SC1740S	Q820	2326218	TR 2SC3116T
Q302	2325721M	TR 2SC1740S	Q821	2324321M	TR 2SC2610-05
Q401	2323521M	TR 2SD789 B/C/D/E	Q822	2324321M	TR 2SC2610-05
Q402	2323531M	TR ST-2SB740 B/CTZ (BC-T)	Q870	2312173F	TR 2SD2375-Q (LT)
Q561	2314911	TR 2SC4630	Q871	2315931F	TR 2SB1548A-P (LT)
Q562	2314911	TR 2SC4630	Δ Q910	2390921F	TR 2SK1464-HIT-CA
Q563	2314911	TR 2SC4630	Δ Q940	2390931F	TR 2SK1460-HIT CB14
Q631	2325721M	TR 2SC1740S	Q941	2321872M	TR 2SD655E
Q650	2325721M	TR 2SC1740S	Q942	2323764	TR 2SA934
Q661	2312173F	TR 2SD2375-Q (LT)	Q943	2325721M	TR 2SC1740S
Q662	2315931F	TR 2SB1548A-P (LT)	Q997	2325721M	TR 2SC1740S
Q701	2325721M	TR 2SC1740S	Q999	2325713M	TR 2SA933S
Q702	2325713M	TR 2SA933S (R)	Q9A1	2321872M	TR 2SD655E
Q711	2325721M	TR 2SC1740S	Q9A2	2323764	TR 2SA934
Q741	2390921F	TR 2SK1464-HIT-CA	Q9A3	2325721M	TR 2SC1740S
Q712	2325713M	TR 2SA933S (R)	Q9C1	2325713M	TR 2SA933S
Q742	2321872M	TR 2SD655E	Δ Q9C4	2325721M	TR 2SC1740S
Q743	2323764	TR 2SA934	Q9C8	2326872R	TR DTC114E
Q743	2325721M	TR 2SC1740S	D10Z	2339837M	ZD HZS-5C1
Q748	2325713M	TR 2SA933S (R)	D13Z	2334181M	ZD RD9.1EB
Q749	2325721M	TR 2SC1740S	D141	2337341M	DI 1SS270A
Q750	2328102F	TR FN521	D142	2337341M	DI 1SS270A
Q752	2325721M	TR 2SC1740S	D151	2337341M	DI 1SS270A
Q753	2325721M	TR 2SC1740S	D152	2337341M	DI 1SS270A
Q754	2324321M	TR 2SC2610-05	D16Z	2334134M	ZD RD5.6EB3
Q770	2390941U	TR 2SK2010-HIT-MG5	D17Z	2334134M	ZD RD5.6EB3
Q771	CF00091F	TR 2SC4891-PM-CA (F)	D181	2333793	LED SLR-34DC5F
Q772	2325721M	TR 2SC1740S	D18Z	2334134M	ZD RD5.6EB3
Q773	2390871U	TR IRF630	D191	2343561A	LED SPR-54MVW
Q774	2326872R	TR DTC114E	D192	2337341M	DI 1SS270A

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SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
D193	2337341M	DI 1SS270A	D50Z	2334335M	DI RD39EB4
D1DZ	2334134M	ZD RD5.6EB3	D51Z	2334335M	DI RD39EB4
D1EZ	2334134M	ZD RD5.6EB3	D561	2337341M	DI 1SS270A
D1FZ	2339825M	ZD HZS4B2	D562	2337341M	DI 1SS270A
D201	2337341M	DI 1SS270A	D563	2337341M	DI 1SS270A
D202	2337341M	DI 1SS270A	D56Z	2339837M	ZD HZS- 5C1
D206	2337341M	DI 1SS270A	D578	2338531M	DI EG01C
D20B	2331912M	DI 1SS82	D579	2338531M	DI EG01C
D20G	2331912M	DI 1SS82	D57Z	2334294M	ZD RD27EB3
D20R	2331912M	DI 1SS82	D60Z	2339837M	ZD HZS- 5C1
D20Z	2334232M	DI RD15EB1	D61Z	2339837M	ZD HZS- 5C1
D210	2337341M	DI 1SS270A	D632	CH00151M	DI SD- DSM1SD2(T)
D211	2337341M	DI 1SS270A	D63Z	2339837M	ZD HZS- 5C1
D21B	2337341M	DI 1SS270A	D651	2337341M	DI 1SS270A
D21G	2337341M	DI 1SS270A	D652	2337341M	DI 1SS270A
D21R	2337341M	DI 1SS270A	D681	2337341M	DI 1SS270A
D22B	2337341M	DI 1SS270A	D682	2337341M	DI 1SS270A
D22G	2337341M	DI 1SS270A	D70Z	2339837M	ZD HZS- 5C1
D22R	2337341M	DI 1SS270A	Δ D71Z	2339022M	ZD HZS6D2L
D22Z	2334134M	ZD RD5.6EB3	D72Z	2339163M	ZD HZS15- 3L
D23B	2337341M	DI 1SS270A	D745	2337341M	DI 1SS270A
D23G	2337341M	DI 1SS270A	D74Z	2339857M	ZD HZS7C1
D23R	2337341M	DI 1SS270A	D751	2337341M	DI 1SS270A
D23Z	2334134M	ZD RD5.6EB3	D752	2342711M	DI EM2A
D24B	2337341M	DI 1SS270A	D754	2337091F	DI EM2A
D24G	2337341M	DI 1SS270A	D770	2339551M	DI EK14
D24R	2337341M	DI 1SS270A	D771	2345561F	DI FMP- G3F3
D24Z	2334232M	DI RD15EB1	D772	2337341M	DI 1SS270A
D25Z	2339864M	ZD HZS9B1	D778	2337341M	DI 1SS270A
D2AZ	2334163M	ZD RD7.5EB2	D779	2337341M	DI 1SS270A
D2BZ	2334163M	ZD RD7.5EB2	D791	2337341M	DI 1SS270A
D2CZ	2331815M	ZD HZ7(B2)	D792	2337341M	DI 1SS270A
D2DZ	2334163M	ZD RD7.5EB2	D79Z	2339837M	ZD HZS- 5C1
D2EZ	2334163M	ZD RD7.5EB2	D80Z	2339811M	ZD HZS3A1
D2FZ	2334163M	ZD RD7.5EB2	D810	2337341M	DI 1SS270A
D2GZ	2334163M	ZD RD7.5EB2	D813	CH00151M	DI SD- DSM1SD2(T)
D2HZ	2334232M	DI RD15EB1	D814	CH00151M	DI SD- DSM1SD2(T)
D31Z	2334232M	DI RD15EB1	D81Z	2334294M	ZD RD27EB3
D32Z	2334134M	ZD RD5.6EB3	D821	2337341M	DI 1SS270A
D33Z	2334232M	ZD RD15EB1	D822	2337341M	DI 1SS270A
D34Z	2334163M	ZD RD7.5EB2	D870	2338561M	DI ERA32- 02
D35Z	2334163M	ZD RD7.5EB2	D871	2338561M	DI ERA32- 02

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D884	2337341M	DI 1SS270A	L20R	2122928M	LA AXIAL COIL
D885	2337341M	DI 1SS270A	L21B	2122935M	LA AXIAL COIL 2.7 MH
Δ D901	2349721	DI D5SBA60	L21G	2122935M	LA AXIAL COIL 2.7 MH
D904	2338561M	DI DRA32-02	L21R	2122935M	LA AXIAL COIL 2.7 MH
D905	2343051M	DI 1SS145	L22B	2122963M	LA AXIAL COIL
D906	2343051M	DI 1SS145	L22G	2122963M	LA AXIAL COIL
D910	2338531M	DI EG01C	L22R	2122963M	LA AXIAL COIL
Δ D920	CH00051	DI SD-S1WB(A)/60B	L301	2122956M	LA AXIAL COIL 100 MH $\pm 10\%$
D921	2338531M	DI EG01C	L560	2122259M	LA AXIAL COIL 330 MH
D922	2342721M	DI SM-1XH02TP	L601	2122967M	COIL 470 MH
D923	2338532M	DI EG01A	L723	2122965M	LA AXIAL COIL 471KB
Δ D92Z	2339952M	ZD HZS27-2	L740	2122956M	LA AXIAL COIL 100 MH $\pm 10\%$
D940	2338531M	DI EG01C	L770	BZ00477	HORIZONTAL LINEARITY COIL
D95Z	2339952M	ZD HZS27-2	L771	BZ00476	HORIZONTAL LINEARITY COIL
D96Z	2339837M	ZD HZS-5C1	L772	2220583	COIL
D971	2349971	DI FMG-G2CS	L77F	2123462M	FERRITE BEADS CODE
D97Z	2339112M	DI HZS11B2L	L875	2125816N	LH L08TB271K
D981	2337091F	DI RG2A	Δ L9	BZ00751	DEGAUSS COIL
D982	2349921M	DI D2L20U	Δ L901	2169462	COIL
D983	2338944	DI FML-G12S(F)	Δ L902	2169462	COIL
D984	CH00131	DI F5KQ60	L903	2161152	FILTER COIL
D985	2338561M	DI ERA32-02	L904	2161152	FILTER COIL
D986	2337341M	DI 1SS270A	L94F	2123462M	FERRITE BEADS CODE
D991	2342721M	DI SM-1XH02	L95F	2123462M	FERRITE BEADS CODE
D997	2337341M	DI 1SS270A	L96F	2123462M	FERRITE BEADS CODE
D998	2337341M	DI 1SS270A	L971	2220583	COIL
D99Z	2339837M	ZD HZS5C1	L97F	2123462M	FERRITE BEADS CODE
Δ T750	BW00471	FLYBACK TRANSFORMER	L98F	2123462M	FERRITE BEADS CODE
T770	2276111	DRIVE TRANSFORMER	L99F	2123462M	FERRITE BEADS CODE
T780	2276122	CHOKE TRANSFORMER	S101	2632857	TACT SWITCH
Δ T910	2216372	POWER TRANSFORMER	S102	2632857	TACT SWITCH
Δ T920	2216242	POWER TRANSFORMER	S77R	2640576	RELAY
Δ T940	2216364	POWER TRANSFORMER	Δ S901	2634731	PUSH SWITCH
Δ F901	2722446	FUSE 4A	Δ S91R	2640576	RELAY
L101	2122253M	LA AXIAL COIL 100 MH	Δ S93R	2640576	RELAY
L102	2122956M	LA AXIAL COIL 100 MH $\pm 10\%$	X101	2168941	CRYSTAL
L201	2220598	RADIAL COIL 390 MH	#01	4347324	HEAT SINK (POWER)
L202	2122934M	LA AXIAL COIL 2.2 MH	#01	NJ01223	PWB HOLDER
L203	2123466M	FERRITE BEADS CODE	#001B	QD01613	BEZEL ASS'Y
L204	2123958R	COIL 100 MH	#012	PH02271	LED LENS (POWER)
L20B	2122928M	LA AXIAL COIL	#013	PH02281	LED LENS (FUNCTION)
L20G	2122928M	LA AXIAL COIL	#014	3274103K	POWER BUTTOM

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SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
#015	KL00291	POWER BUTTON SPRING	#23	KL00281	GROUNDING SPRING
#02	496T122	RATING LABEL	#24	4519502	3 X 12 B TIGHT TAPPING SCREW
#02	4347321	HEAT SINK (POWER)	#25	SU00071	POL. COVER
#020A	3142754	REAR COVE	#25	4319361	M4X12CE KNURL TAPPING SCREW
#03	MA00041	HEAT SINK (POWER)	#26	3857171	PWB FIX PIECE
#030A	QJ00122	TILT BASE S-ASS'Y	#40	4520889	M3 X 10 SCREW WITH WASHER
#36	4616824A	RUBBER FOOT	#41	3649315	SHIPPING TAG
#04	MD01121	MICOM SHIELD	#41	8821114	NUT
#040	NQ00522	CRT METAL	#561	MA00581	HEAT SINK (DF)
#041	NA03341	DEGAUSSING COIL GUIDE	#630	3446168	HEAT SINK
#05	NJ01321	LED CHOLDER (POWER)	#871	MA00451	HEAT SINK (H.C)
#050	NA03293	PANEL METAL	N01	3763751	SK BINDER
#051	KL00201	CROUNDDING SPRING	N01	QT00261	SERVICE REVISION LABEL
#06	NJ01331	LED HOLDER (FUNCTION)	N02	3700971	LEAD CLAMP
#060	NQ00533	BOTTOM CHASSIS	N03	4968819	SHASSIS NO LABEL
#07	MD01131	EARTH MTL INLET	N03	0996065	PE SACK
#070	PHO2261	REAR PANEL	N04	QR02641	USER'S MANUAL
#080A	4482491	SOCKET HOLDER BAND S-ASS'Y	N05	QR02455	TIMING SHEET
#090	PC00971	POWER KNOB	N21B	3446102	HEAT SINK (VIDEO)
#10	MA00561	HEAT SINK	N21BA	4520883	3 X 12 SCREW WITH WASHER
#100	4522881	3 X 8 CE KNURL SCREW	N21BN	2787213	INSULATOR FOR TRANSISTOR
#101	452T091	M5 X L S TITE SCREW	N21G	3446102	HEAT SINK (VIDEO)
#102	4519512	4 X16 MM TIGHT TAPPING SCREW	N21GA	4520883	3 X 12 SCREW WITH WASHER
#103	4519513	4 X16 B TIGHT TAPPING SCREW	N21GN	2787213	INSULATOR FOR TRANSISTOR
#104	8711608	M4 X 8 PAN HEAD SCREW	N21R	3446102	HEAT SINK (VIDEO)
#105	8815126	4LOCKING WASHER	N21RA	4520883	3 X 12 SCREW WITH WASHER
#11	MA00571	HEAT SINK	N21RN	2787213	INSULATOR FOR TRANSISTOR
#110	3727952	COIL HOLDER	N561	4520889	M3 X 10 SCREW WITH WASHER
#111	3705232	ANODE CLAMPER	N630	4520888	M3 X 12 SCREW WITH WASHER
#112	3734532	LEAD CLAMPER	N741	4520889	M3 X 10 SCREW WITH WASHER
#113	3746482	WIRE CLAMP	N771	4520889	M3 X 10 SCREW WITH WASHER
#114	3763751	SK BINDER	N871	4520889	M3 X 10 SCREW WITH WASHER
#115	3734532	LEAD CLAMPER	N9	3333924	EARTH SPRING
#116	3700971	LEAD CLAMP	N910	4520889	M3 X 10 SCREW WITH WASHER
#12	350T032	CARTON BOX	N940	4520889	M3 X 10 SCREW WITH WASHER
#12	MD01131	EARTH MTL INLET	N971	4520889	M3 X 10 SCREW WITH WASHER
#20	SP01741	TOP CUSHION	E001	2772984	ADJUST PIECE
#20	MD00913	VIDEO SHIELD	E002	2977426	SIGNAL CABLE CODE
#21	NJ01231	SOCKET HOLDER	E701	2675284	5P PH POST PIN
#21	SP01731	TOP CUSHION	E701	2779281	SLEEVE FERRITE CLAMP
#22	NJ01261	SOCKET HOLDER	E9	2958181	CONNECTOR RE 1P CX 270
#22	SP01751	BOTTOM CUSHION	E901	2721351	FUSE HOLDER

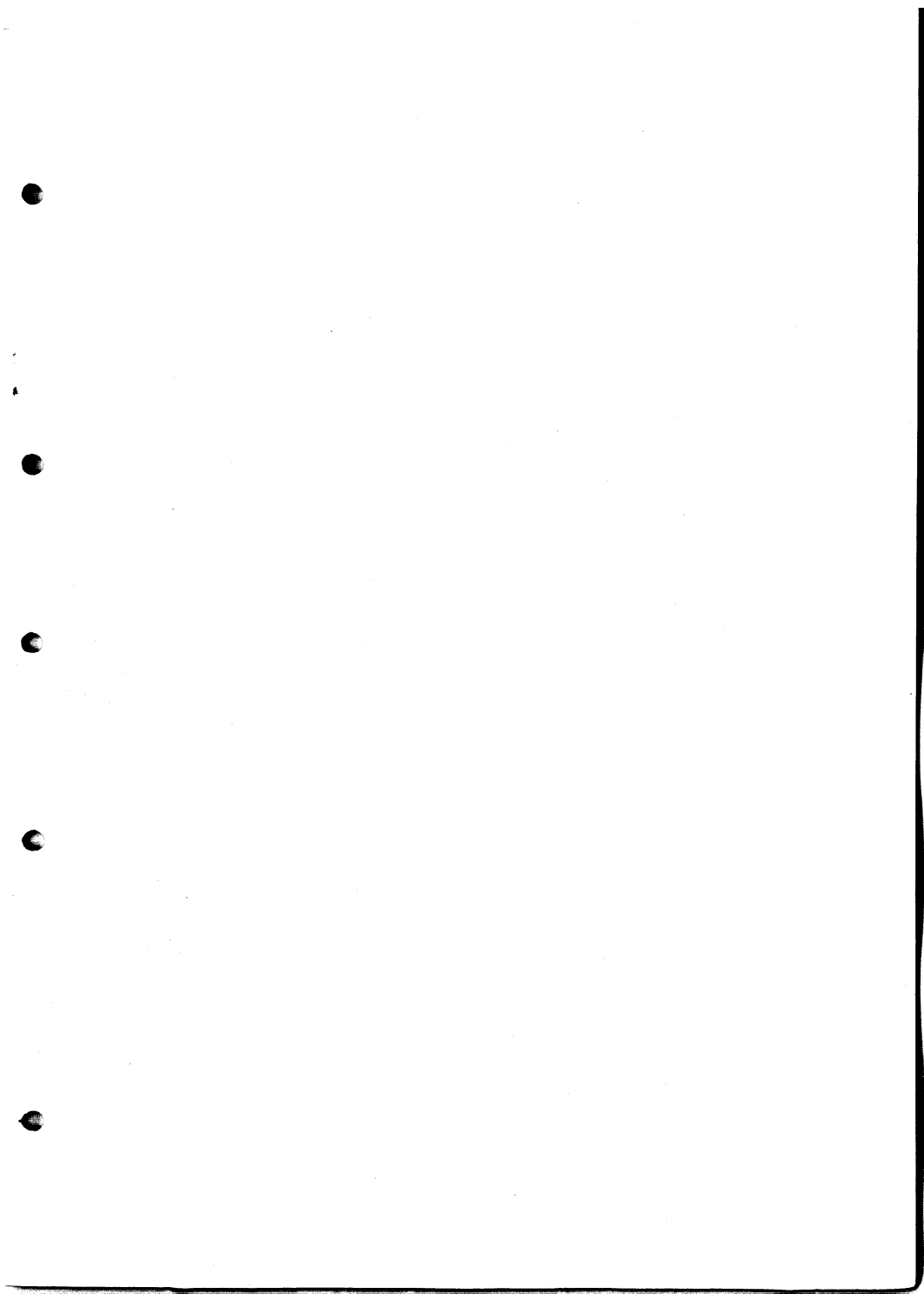
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SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
E901	2779281	SLEEVE FERRITE CLAMP			
Δ E904	2676371	AC INLET SK-019			
E905	2663131	2P PLUG PIN WITH BASE			
E906	2900967	CONNECTOR RE 1P AX 130			
E907	EF02571	LEAD WIRE WITH TERMINAL			
E908	EF02111A	CONNECTOR RE 1P AT 100 (G/Y)			
E910	2783981	LEAD PIN L			
ECDT	2954701	CPT SOCKET FOR DF TUBE			
EGG	2661751	2P PLUG PIN WITH BASE			
EMH	2983198	3P PLUG PIN			
EMR	2902262	3P PLUG PIN			
EMV	2661752	3P PLUG PIN WITH BASE			
MEV1	EF02841	CONNECTOR 8P CB 240			
MEV2	EF02841	CONNECTOR 8P CB 240			
MEV3	2909352	CONNECTOR 12P CB 270			
MEV4	1802247	8P PLUG PIN			
MEV5	2675287	8P PLUG PIN WITH BASE			
MEV6	2675292	12P PH POST PIN			
EP	2963915A	AC POWER CORD (EUROPE)			
ES	2680577	BS TERMINAL			
ESIN	2902251	11P PLUG PIN			
G201	2340742	SURGE PROTECTOR			
G20B	FU00011G	DSP SURGE PROTECTOR			
G20G	FU00011G	DSP SURGE PROTECTOR			
G20R	FU00011G	DSP SURGE PROTECTOR			
G560	2340039	SPARK GAP			
J204	2123958R	FILTER COIL			
W901	EK00201	CONNECTOR RE 1P AA330			
Δ V1	2471653	CRT M41KKL680X87(UQ)			



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