DELUXSCAN®

S770

17" (15.7" viewable) Multiscanning Color Monitor

TECHNICAL SERVICE MANUAL

HYUNDAI

CONTENTS

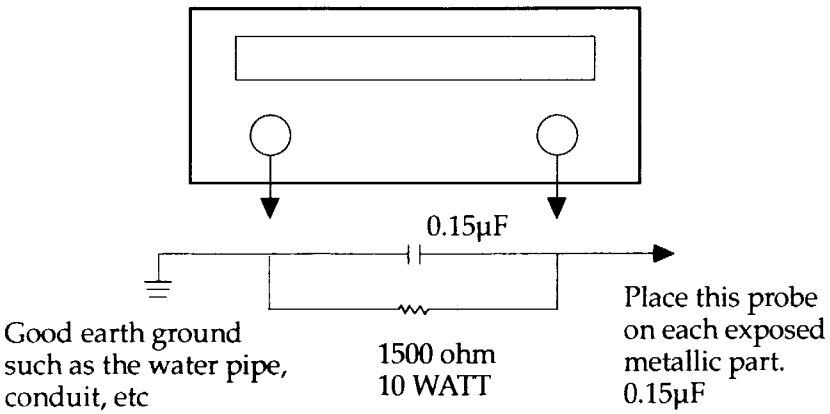
Safety Precaution

WARNING

Service should not be attempted by anyone unfamiliar with the necessary precautions on this monitor. The followings are the necessary precautions to be observed before servicing.

1. Always discharge the high voltage to the CRT conductive coating before handling the CRT. The picture tube is highly evacuated and if broken, glass fragments will be violently exploded. Use shatter proof goggles and keep picture tube away from the bare body while handling.
2. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as nonmetallic control knobs, insulating covers, shields, isolation resistor capacitor network etc.
3. Before returning the monitor to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as signal connectors, terminals, screw heads, metal overlays, control shafts etc, to be sure the monitor is safe to operate without danger of electrical shock. Plug the AC line cord directly into a AC outlet (do not use a line isolation trasformer during this check.). Use an AC voltmeter having 1500 ohm per volt or more sensitivity in the following manner : Connect ground(water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC Voltage across the combination of 1500 ohm resistor and 0.15 μF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. The Voltage must not exceed 0.3 volts RMS. This corresponds to 0.2 milliamp AC. Any value exceeded this limit constitutes a potential shock hazard and must be corrected immediately.

AC VOLTMETER



INSTRUCTIONS TO USER

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instruction, may cause interference to radio and television. It has been tested and found to comply with the limits for the specifications in Subpart J of Part 15 FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- reorient the receiving antenna
- relocate the computer with respect to the receiver
- plug the computer into a different outlet so that computer and receiver are on different branch circuits.

X-Ray Radiation Precaution

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must be under the specified limit. The nominal value of the high voltage of this monitor is 25.5KV ±1.0KV at zero beam current(minimun brightness) under a 120V AC power source. The high voltage must not(under any circumstances) exceed30KV. Each time a monitor requires servicing, the high voltage should be checked.
   It is recommended the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. This monitor is equipped with a protection circuit which prevents the monitor from producing excessively high voltage. Each time the monitor is serviced, the protection circuit must be checked to determine that the circuit is properly functioning.
3. The only source of X-RAY RADIATION in this monitor is the picture-tube.
   For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
4. Some parts in this monitor have special safety-related characteristics for X-RAY RADIATION protection.
   For continued safety, parts replacement should be undertaken only after referring to the product safety notice.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this monitor have special safety-related characteristics. These characteristics are often not evident from visual inspection.
Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features identified by "⚠" in the replacement parts list and schematic diagram.
For continued protection, replacement parts must be identical to those used in the original circuit. The use of substitute replacement parts which dose not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire, X-RAY RADIATION or other hazards.

PRODUCT CDRH NOTICE

Electrical potentiometers which is marked as caution "⚠" in parts list are critital components of safety & CDRH.
Therefore, for continued protection, replacements parts must be used it which is used in original PCB ASS'Y.

General Inforormation

1. Description

This 17" (15.7" viewable) color display monitor is operated in R, G, B, drive mode input.

2. Operating instructions

2-1. Front

Menu, Select,Down(▼),Up(▲) DPMS(Power)LED, Soft Power.

2-2. Rear

Input connection (AC & SIGNAL CABLE)

2-3 Service Instruction(internal controls)

H-Center , H/V Focus , Sub-Bright

2-4. OSD Controls

Brightness/Contrast, H/V-Position, H/V-Size, Pincushion/Trapezoid, Parallelogram/Pin Balance, Corner Pin/Rotation, H/V Moire, Degauss, Color Control, Mode Information, Language, OSD Display time, OSD Adjust, DPMS, Zoom, Recall

3. Electrical Characteristics

3-1. Power supply

Input Voltage : 100-240 V AC
Input Current : 1.3A Max.
Input Frequency : 50 - 60Hz
Power Consumption : 90W Max.

3-2. Video input signal

Input : 0.7 Vp-p analog signal(at 75 ohm terminated to ground)
Polarity : Positive
Rise/Fall time : < 5ns

3-3. Horizontal Synchronization Signal

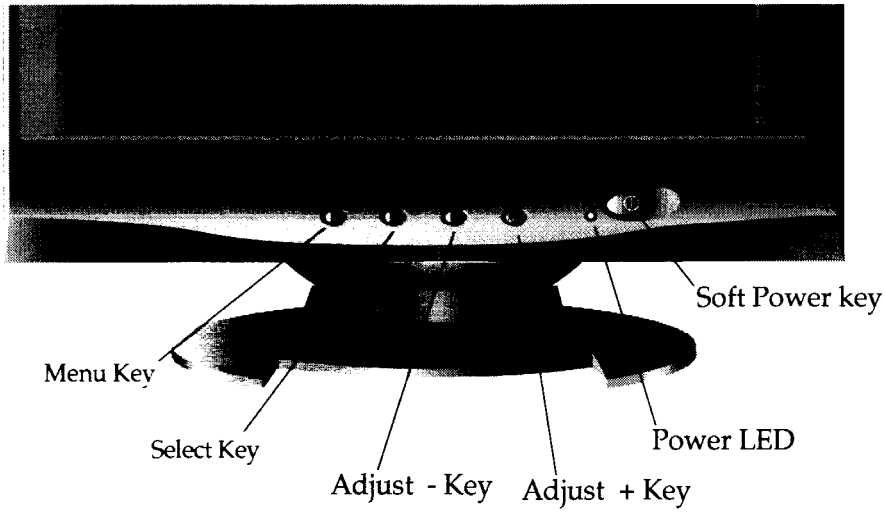
Level : TTL High : 2.4V min
Low : 0.4V max
Polarity : Negative or Positive
Frequency : 30kHz - 70kHz
Timing Limits : Pulse width ($0.1\mu s \leq Thp \leq 6\mu s$)

3-4. Vertical Synchronization Signal

Level : TTL High : 2.0V min
Low : 0.4V max
Polarity : Negative or Positive
Frequency : 50Hz - 150Hz
Timing Limits : Pulse width ($8\mu s \leq Tvp \leq 2.048ms$)

Control Desciption

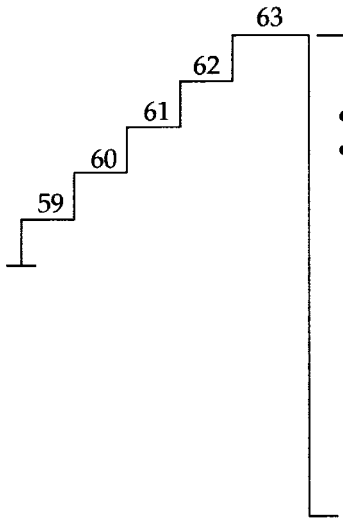
Front View



Video Input Signal

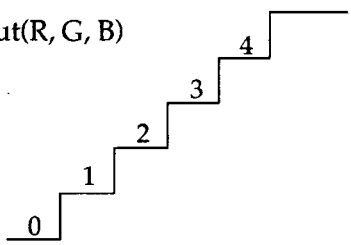
Recommended signals are shown below.

- **Video Signal**
  Video Level : 0 to 700mV
  Polarty : Positive
  Video Input : RGB separated
  Analog level
  Sync input : H-Sync ; TTL level
  V-Sync ; TTL level

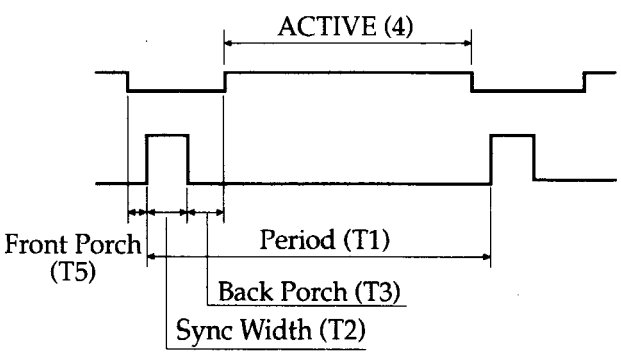


- Signal: 64 level gray scale
- Linear stepping:
  (11.1mV-64 Steps)

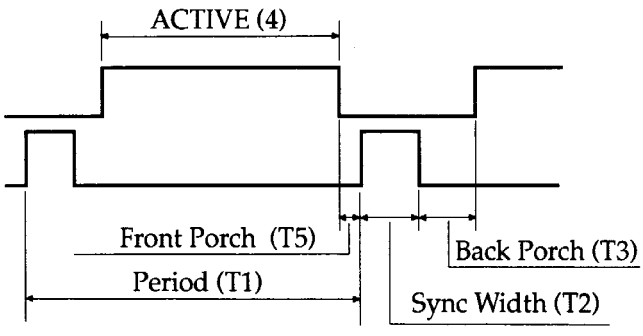
- **Waveform**
  Video input(R, G, B)



- **H-Sync**



- **V-Sync**



• **Timing Table**

Horizontal	Dot	720	640	640	640	640	800	800	800	1024	1024	1152	1280
Frequency	kHz	31.469	31.469	43.269	50.628	63.657	46.875	53.674	63.920	60.023	68.677	67.500	63.981
Period(T1)	μs	31.778	31.778	23.111	19.752	15.709	21.333	18.631	15.645	16.660	14.561	14.815	15.630
Sync Width(T2)	μs	3.813	3.813	1.556	1.580	1.745	1.616	1.138	1.185	1.219	1.016	1.185	1.037
Back Porch(T3)	μs	1.907	1.907	2.222	1.975	1.745	3.232	2.702	2.015	2.235	2.201	2.370	2.296
Active(T4)	μs	25.422	25.422	17.778	15.802	11.636	16.162	14.222	11.852	13.003	10.836	10.667	11.852
Front Porch(T5)	μs	0.636	0.636	1.556	0.395	0.582	0.323	0.569	0.593	0.203	0.508	0.593	0.444
Blanking Time	μs	6.356	6.356	5.333	3.950	4.073	5.171	4.409	3.793	3.657	3.725	4.148	3.778

Vertical	Line	400	480	480	480	480	600	600	600	768	768	864	1024
Frequency	Hz	70.087	59.940	85.008	100.05	120.11	75.000	85.061	100.03	75.029	84.997	75.000	60.020
Period(T1)	ms	14.268	16.683	11.764	9.995	8.325	13.333	11.756	9.997	13.328	11.765	13.333	16.661
Sync Width(T2)	ms	0.064	0.064	0.069	0.059	0.094	0.064	0.056	0.063	0.050	0.044	0.044	0.047
Back Porch(T3)	ms	1.080	1.048	0.578	0.435	0.566	0.448	0.503	0.501	0.466	0.524	0.474	0.594
Active(T4)	ms	12.711	15.253	11.093	9.481	7.540	12.800	11.179	9.387	12.795	11.183	12.800	16.005
Front Porch(T5)	ms	0.413	0.318	0.023	0.020	0.126	0.021	0.019	0.047	0.017	0.015	0.015	0.016
Blanking Time	ms	1.557	1.430	0.671	0.514	0.785	0.533	0.577	0.610	0.533	0.582	0.533	0.656
Interlaced	Y/N	N	N	N	N	N	N	N	N	N	N	N	N
Sync Polarity	H	-	-	-	-	-	+	+	+	+	+	+	+
	V	+	-	-	-	-	+	+	+	+	+	+	+
Standard Type		VGA	VGA	VESA	INDUSTRY	INDUSTRY	VESA	VESA	INDUSTRY	VESA	VESA	VESA	VESA

The monitor is compatible with additional modes within the specified frequency ranges provided that they are different at least for one of the following :
Horizontal Freq.: ±0.5kHz
Vertical Freq.: ±1Hz

Note: Even if the monitor detects the input timing as a factory preset mode, the size and position may not be able to be set as desired. Check the input timings are under the specifications and adjust the image as you want.

For better quality of display image, use the timing and polarity shown in the table above. Please see your video card user's guide to ensure compatibility.

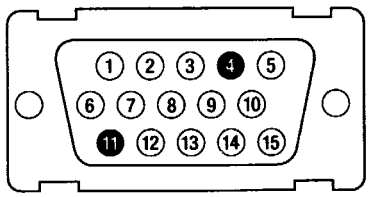
Video Input Terminal

A 15 Pin D-sub male connector is used as the input signal connector.
Pin and input signals are shown in the table below.

Pin Description

SIGNAL / PIN NO.	SEPERATE SYNC	COMPOSITE SYNC
1	RED	RED
2	GREEN	GREEN
3	BLUE	BLUE
4	N.C	N.C
5	DDC RETURN	DDC RETURN
6	RED GROUND	RED GROUND
7	GREEN GROUND	GREEN GROUND
8	BLUE GROUND	BLUE GROUND
9	+5	+5
10	LOGIC GROUND	LOGIC GROUND
11	N.C	N.C
12	SDA	SDA
13	H-SYNC(TTL)	(H+V) SYNC
14	V-SYNC(VCLK)	VCLK
15	SCL	SCL

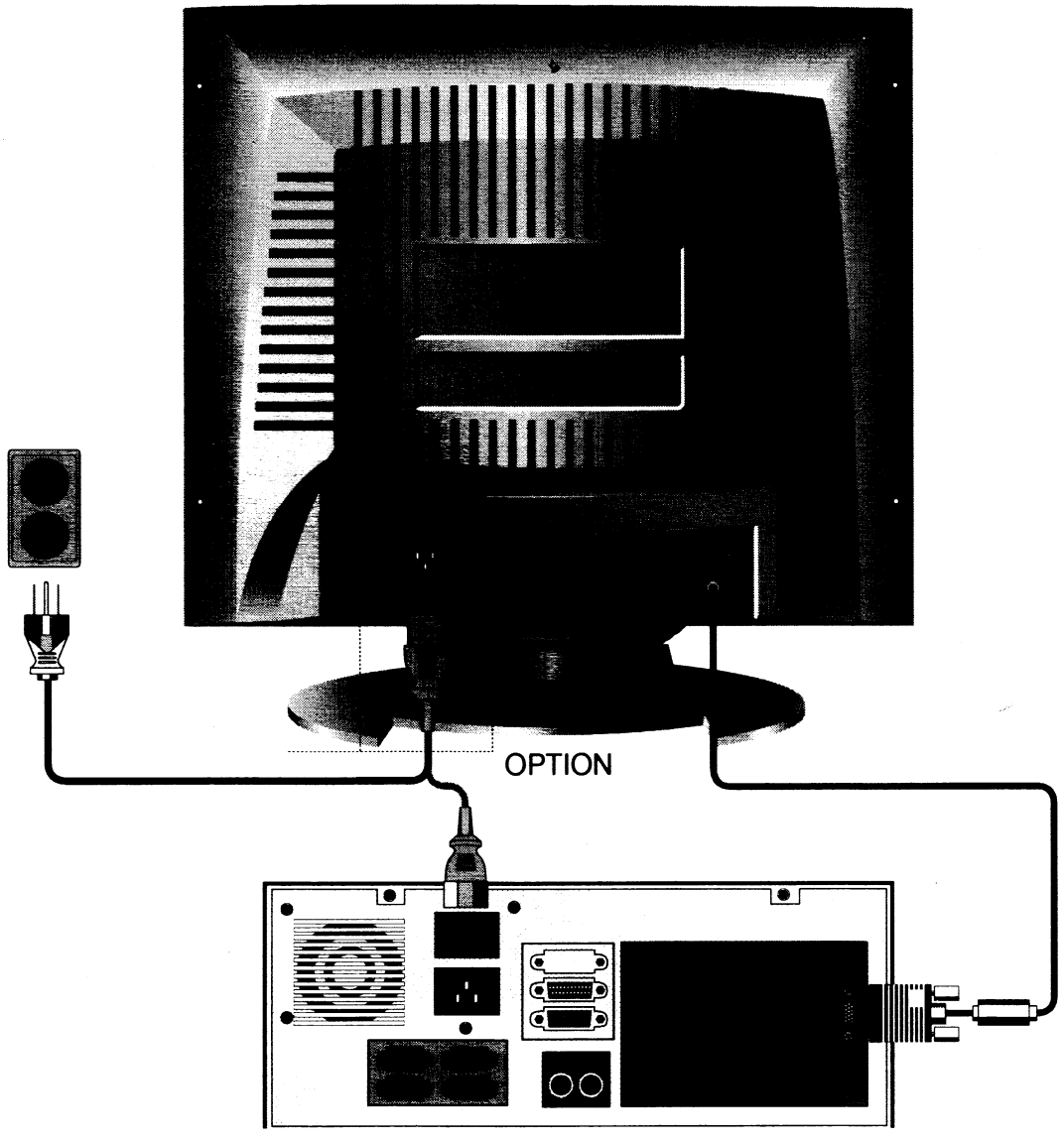
D-Sub male connector



Connecting With External Equipment

Cautions

Be sure to turn off the power of your computer before connecting the monitor.



Theory of Operation

1. Power Supply

The AC line voltage range is from 100V to 240V.
The SMPS has +55V, +75V, +7.0V, +14V,+35V
The conducted noise is filtered by X(C101, C103) and Y (C102, C115)capacitors and a common mode line filter (L101).
The input rectifier (D111 ~D114) converts the AC line voltage into a DC voltage to power the SMPS.
The UC3842 (U101) drives the power FET(Q102) according to the PWM signals generated by the R_T and C_T (R117, C105) connected pin 4 of U101.
The U101 is an integrated current mode PWM.
It consists of an oscillator, error amplifier, current sense comparator, under voltage lock-out and an MOSFET drive stage.
The switching frequency is locked to horizontal scan frequency by horizontal flyback pulse.
When the monitor is in OFF mode with no pulsed syncs. Q104 and Q108 is turned off. The total power consumption must be less than 5W in off mode.

2. DPMS and Self test mode

The power supply supports the DPMS function. Its operation is shown in the table below.

MODE	H-SYNC	V-SYNC	BRI MCU PIN 22	CON MCU PIN 23	MCU PIN 4	MCU PIN 3	Q103	Q107	14V	7.0V	REMARK
NORMAL	O	O	CONTROL		H	H	ON	ON	14V	7.0V	
SELFTEST	X	X	5 V		H	H	ON	ON	14V	7.0V	
STAND-BY	X	O	0 V		H	H	ON	ON	14V	7.0V	VESA
STAND-BY	X	O	0 V		L	H	OFF	ON	0V	7.0V	NEWTEK
SUSPEND	O	X	0 V		L	H	OFF	ON	0V	7.0V	
OFF	X	X	0 V		L	L	OFF	OFF	0V	0V	

3. Signal Processing and MCU Control

The X-TAL resonates at 6MHz.
When the H and V sync or TTL composite sync are input to MCU, MCU can measures the H and V frequency to detect the video mode.
MCU has digital to analog converter(DACS) control function like R/G/B cut off, R/B drive, rotation, contrast, brightness. and MCU can control Zoom, Recall, H/V-Size, H/V-Position, Pincushion/Trapezoide, Parallel/Pin Balance, Coner Pin, H/V Moire, Color Control, Mode Information, Language, OSD Display Time, OSD Adjust, DPMS, Soft Power by I2C BUS Line.
The operation of MCU is shown in the table below.

H-FREQ (kHz)	H-LIN1 PIN 17	H-LIN2 PIN 18	H-LIN3 PIN 19	REMARK
H < 33	L	L	L	
33 < H ≤ 36	L	L	H	
36 < H ≤ 41	L	H	H	
41 < H ≤ 45	H	L	L	
45 < H ≤ 50	H	L	H	
50 < H ≤ 52	H	L	H	
52 < H ≤ 59	H	L	H	
59 < H ≤ 62	H	H	L	
62 < H ≤ 67	H	H	L	
67 < H	H	H	H	

4. Horizontal Deflection

TDA4854 or TDA4853(U301) is an I2C autosync deflection controller for H/V sync and drive processing.
All functions are controlled by I2C bus.
When H-Sync is applied, the internal oscillator is automatically locked.
The duty-cycle of H-output pulse(Pin 8) is variable by frequency.
Q328, Q329, Q312 and T301 are used to drive the H-output transistor (Q311). Q311 is turned on, it conducts current through the deflection yoke on the right hand side of the screen.
This current comes from the S correction capacitors (C339, C341, C342, C344), which have a charge equal to the effective supply voltage.
When the Q311 is opened up, the damper diode(D308) allows current for left hand side of the screen to flow back through the deflection yoke to the S capacitors.
The flyback capacitor (C338) determines the size and length of the flyback pulse.
The S capacitors correct outside versus center linearity in horizontal scan.
Two FETs (Q309, Q310) and relay (RL301) select the value of S capacitors.
H-centering is controlled by a switch(SW301). The switch selects DC offset current flow through the yoke.
A diode modulator is used to control the E-W correction and H-size. U301 generates the E-W parabora wave using vertical amp.
A power buffer (Q316, Q317) drives the diode modulator.
In order to keep the high voltage constant independent of the horizontal scan frequency, the supply voltage of FBT must increase with increasing scan frequency proportionally. A step-up mode DC-DC converter with PWM is used to realize this demand.
U301 compares high-voltage feedback with reference voltage. Its output pulse switches a FET(Q315).
To adjust the high voltage, TDA4854(U301) has a control terminal (Pin 5).

5. Vertical Deflection

In vertical section of TDA4854 or TDA4853(U301), there is auto-sync processing.
The vertical output stage consists of a power OP-AMP with extra flyback grnerator.
TDA4866(U201) is used as vertical output stage.

6. X-Ray Protection and Beam Current Limiting.

A failure in the horizontal scan control section could cause a dangerous situation; the high voltage might rise to an unacceptable high level. When the flyback voltage rise to unacceptable level, the pin2 of U301 detects these states (over 6.2V).
It causes the H-drive stage and oscillator to be turned off. Then high voltage is shut down until the power switch is on.
The average anode current is measured at lower side of the High Voltage winding of the FBT. The anode current flows through resistor R503, R505 connected against +8V.
When the anode current increases, the voltage across R505 increases also the base voltage of Q502 drops so contrast control voltage is limited.

7. Video Amplifier and OSD Interface

MC13282EP (U401) is a wide band video amplifier with three matched video amplifiers, contrast control, OSD interface, OSD contrast control, drive controls, blanking gate and clamp gate. H-blank signal is applied to Pin 24. During blanking all three outputs are thrown to the pedestal level. An inserted H-sync is used to a clamp signal.
The signal is applied to Pin 23.
Three OSD inputs (Pin 8, 10, 12 of U401) are TTL compatible and typical bandwidth is 50MHz.
A fast commutate pin is provided to select either the video or the OSD inputs as a source for amplification.
OSD contrast control (Pin 11 of U401) is also provided for the amount of amplification required when OSD inputs are selected.
LSC4388P2 (U403) is a high performance HCMOS device designed to interface with a micro controller unit (U601) to allow colored symbols or characters to be displayed on the monitor screen.
The output stage is made of 3-channel power amplifier (U402, LM2435). The output is capable of 40 Volts swing in less than 11 Sec.
The three cathodes are AC coupled to the video amplifiers. The DC level on each cathode is set by a cut-off amplifier and clamp diode. The value of the DC voltage is adjusted by DACS.

Visual Characteristics

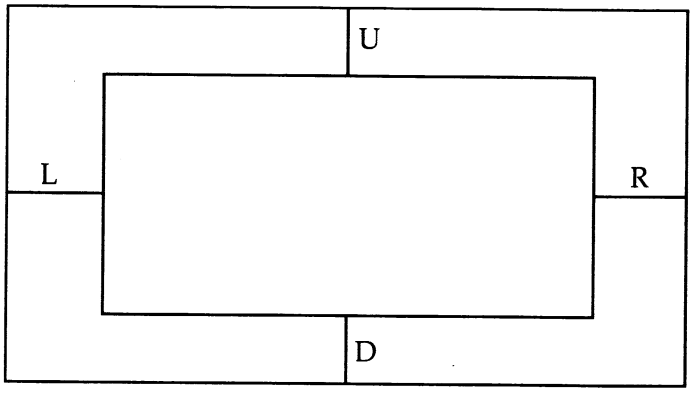
1. Test condition

- Resolution : Any of Preset modes
- Input level : 700mV
- Pattern : Cross Hatch pattern
- Brightness Control : Default position (cut off)
- Contrast Control : Adjust to 100 cd/m2 of luminance (Center of the white field)
- Image duty cycle : 10% to 90%
- Magentic field : Horizontal = 0.3 Gauss
  Vertical = 0.4 Gauss
- Supply Voltage : 100~240 VAC
- Operating Condition
  Temperature (0 to 40)°C
  Humidity (35 to 80)% (W/O condensation)
  Altitude (0 to 3000)m
- Stroage condition
  Temperature (-10 to 60)°C
  Humidity (5 to 85)% (W/O condensation)
  Altitude (0 to 15,000)m

2. Display Centering

The following describes the pattern for this test. Basically it is composed by a single pixel white line around the perimeter of the data area, with marks for the horizontal and vertical axes, the background is black.
The display centering shall be met as following specification at adjustied centering function (user's control)

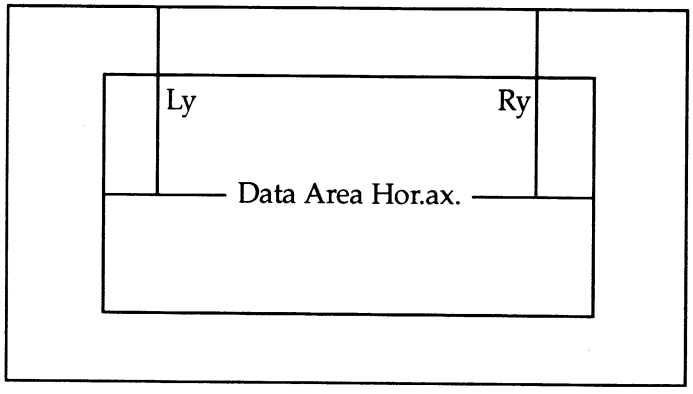
[L-R] ≤ 4mm [U-D] ≤ 4mm



3. Tilt

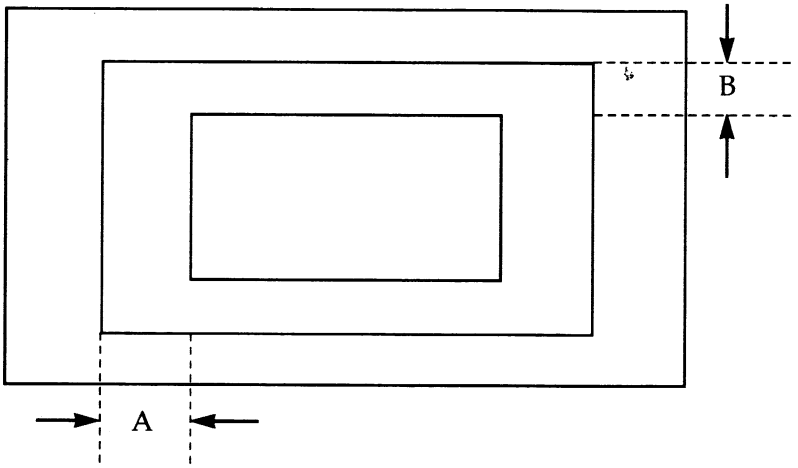
The maximum variation of the display rotation(tilt) shall be with in 2.5 mm based on the following formula.

[Ly-Ry] ≤ 2.5mm



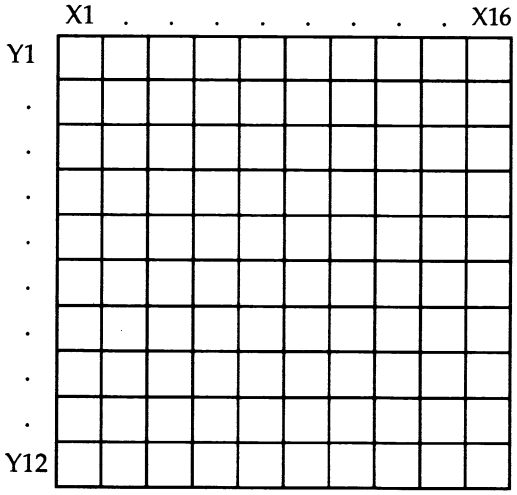
4. Geometric Distortion

All kind of Geometric Distortion
(Pincushion, Barallel, Parallelogram and Trapezoid) shall be with in 2mm boundary (to tolerance frame) Refer to belows tolerance frame.
A ≤2mm B ≤2mm
The tolerance frame sides are parallel to the window of enclosure axes.



5. Linearity

The linearity of an image displayed on the CRT must meet the following requirements, with reference to figure for both X and Y axis.



• Formula : $\frac{XMax - XMin}{XMax + XMin} \times 100 = \leq 6\%$ overall(VGA mode is 8%)

$\frac{XMax - XMin}{XMax + XMin} \times 100 = \leq 5\%$ adjacent cells

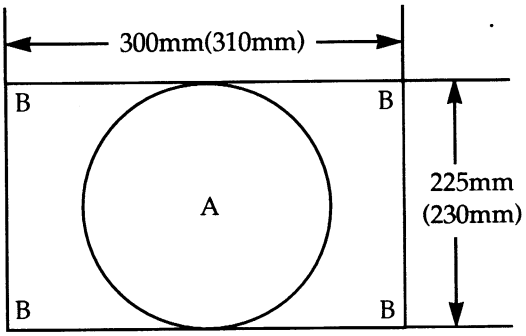
• Where : X1=X2=....X16
Y1=Y2=....Y12

6. Misconvergence

The display must confirm to all following requirements:
Maximum convergence error.

Area	Horiz. Direction	Vert. Direction
A Central circle field of(195) mm diameter	0.3mm	0.3mm
B All screen Area (300 ×225) except Area A	0.45mm	0.45mm

The maximum convergence error shall be measures for a white spot of line, and represents the maximum distance between the energy centers of any two primary colors.



Power Management System

The automatic power management function saves electricity and reduces heat. Used in conjunction with a PC having Power Management function, or a PC running Screen Blanking software, this monitor automatically reduces its power consumption when the PC is not in use.
This monitor runs in four states:ON(Normal Operating), Stand-by(No Video Signal), Suspend(Minimum Power for Quick Recovery) and OFF(Non-Operating).

This monitor is in complaince with U.S EPA Energy Star and NUTEK requirements.

Please refer to the following specifications.

State	Signals			Power consumption	Recovery time	LED Description
	H-Sync	V-Sync	Video			
On	pulses	pulses	active	90W	-	Green
Stand by	no pulse	pulses	blanked	60W	within 1 sec	Orange/Green blinking about 1 sec
				(*) 15W	(*) within 3 sec	
Suspend	pulses	no pulse	blanked	Less than 15W	within 3 sec	Orange/Green blinking about 0.5 sec
Off	no pulse	no pulse	blanked	Less than 5W	within 15 sec	Orange

☞ (*) ; It is capable to select by user.

Trouble Shooting

1. Introduction

This trouble shooting guide is arranged by fault conditions. Following each fault condition is a check for a signal on condition to be answered YES or NO.
For NO answer proceed to the right and continue until the fault is located.
For a YES answer continue in the left column to the next numbered check.
Again followed this procedure until the fault is located.

2. Trouble shooting procedure

When Troubleshooting this monitor, some precaution should be observed.
Use a high quality isolation tranformer is capable of providing 3 Amps or more.
Never connect primary ground and secondary ground together including use with an isolation transformer.
Measure high voltage with respect to chassing ground only, and with a high impedance prove of 1000 mega-ohm or higher and rated for 30KV DC or higher.
Measure Q311 collector pulse with a high quality 100:1 probe rated for 1500 volts or higher.

3. Troubleshooting procedure

Symptom	Check(YES)	Action(NO)
a) Image is scrolling.	1) Check for Vsync at pin 1 of U601	Check 15 pin D-sub connector, cable, D611.
	2) Check for positive going Vsync at pin 14 of U301.	Check U301, U601
	3) Will V-oscillator is locked with input signal? (pin 24 of U301)	Check C317
	4) Check V-ramp at pin 12, 13 of U301.	Replace U301.
	5) Check V-out at pin 4, 6 of U201.	Check B+ at pin 3, 7 of U201.
b) Image is unstable.	1) Check for Hsync at pin 42 of U601	Check 15 pin D-sub connector, cable, D612.
	2) Check for positive going Hsync at pin 36 of U601.	Replace U601
	3) Will H-oscillator is locked with input signal? (pin 29 of U301)	Check C318, C319, C320, C321, R320, R321, R322
	4) Check H-out at pin 8 of U301	Replace U301
	5) Check for flyback pulse at pin 1 of U301.	Check R304

Symptom	Check(YES)	Action(NO)
c) Screen is black but high voltage is present.	1) Check for G2, pin4 of CRT. Around 580 volts?	Check D513, R502, G2 wire, CRT socket.
	2) Check for heater voltage at pin 6 of CRT. (about 6.3V)	Check D107, Q108, Q107, R464, P401 CRT socket.
	3) Can screen be lit with brightness control at MAX?	Check D501, C502, D509, Q506 , Q503 CRT socket.
	4) Check for video at pin 2, 4, 6 of U401.	Check 15 pin D-sub connector, cable, D418, D420, D426
	5) Check for positive pulse for clamp at pin 23 of U401.	Check pin 36 of U601, Q601
	6) Check if contrast controls video level at pin 15, 19, 22 of U401.	Check U601, R501, Q502.
	7) Check for video at pin 8, 9, 11 of U402.	Check U401.
	8) Check for video at pin 1, 3, 5 of U403.	Check U403, 75VDC(pin 6) 12VDC(pin 10)
	9) Check if R, G, B cut-off control the video DC level at pin 4, 6, 9 of CRT.	Check Q431 to Q436
	10) Check CRT.	
d) Screen is black with no high voltage.	1) Is the LD101 lighting in Green color.	Check H.V Sync at pin 1, 42 of U601. Check pin 6, 7 of U601. Check U603, U602, U604, U403.
	2) Check for 12V at collector of Q103.	Check Q103, Q104. Check pin 4 of U601.
	3) Check output pulse at pin 6, 8 of U301.	Check for Vcc at pin 10 of U301. Check oscilation pulse at pin 29 of U301. Check X-Ray voltage below 6.2V at pin 2 of U301.
		Check R305, R306, R307
	4) Check Hor-Drive pulse at Base of Q311.	Check Q312, T301.
	5) Check B+ at pin 2 of T501.	Check Q302, Q315, Q311, Q313, Q314, L303, D105, D110
e) No power	1) Check U101 pin 4, 7	Check RT101, Q106, Q107
	2) Check switch pulse at Drain of Q102.	Check pin 6, 3 of U101.
	3) Check voltage for, 55V at anode of D105, D110 and for 5V at pin 3 of U104.	Recheck above Item(d).

Adjustment Method

1. Caution

Extremely high voltage are present in the area around the FBT(T501) and the anode high voltage lead. Do not touch Q102 or its heatsink as high voltage is present on these components.

2. Equipment Required

Digital Voltmeter
Frequency Counter : about 40 Hz to 100 KHz
Color Analyzer
Video Signal Generator
High Voltmeter : up to 30 KV
Alignment Templete : Attachment 1

3. Before Adjustment

Verify that the video output level is 0.7 Vpp at 75 ohm termination and the video timmings are same as standard timming given in specification. Place the AC power switch to the ON position.
Allow the monitor to stabillize thermally for 15 minutes at least before any adjustment about the image parameters. The electron optics of the CRT and electronics of system require time of stabillize.

4. Adjustment Procedure

4-1 Horizontal raster center setting

- Video Signal : Back Raster pattern in 60kHz, 768 mode
- Measuring Point : SW301, main board
- Place the Raster in center of the bezel.

4-2 Factory mode setting

- Turn off the power.
- Keep pressing the menu select key until the power turns on.
- Press the menu select key one more time.
- You can see the "Factory - Menu" message on the top of the OSD main menu.
- This is the factory mode.
- Turn off the power to save the adjusted state.
- Select the "Mode Information" menu after you exit the factory mode.

4-3 Rotation setting

- Video Signal : Cross Hatch pattern in 31.5kHz, 400 mode
- Adjust the rotation of screen by using the menu select key and adjustment dial.

4-4 Color setting

- Adhere color Analyzer sensor closely to CRT center.
- Set Factory mode.
- Video mode : 68.677kHz, 768 mode

1 Color Temperature 9300°K setting
- Select " 93 " by using the menu select key and adjustment dial.

①Back Raster Setting
- Video signal : Back Raster Pattern
- Adjust the brightness of back raster by rotating the adjustment dial in "Bright"
- Limits : 2.5±0.5 cd/m2

②Cut-off Setting
- Video signal : Back Raster Pattern
- Select "Cut-off" by using the menu select key and adjustment dial.
- Press the menu select key to get the desired R, G or B Cut-off.
- Rotate the adjustment dial to limit the x and y color coordinate.
- Limits : x=0.281 ±0.01, y=0.311 ±0.01

③Drive Setting
- Video signal : 20% white box
- Select the "Gain" by using the menu select key and adjustment dial.
- Adjust the brightness go to minimum by using the adjustment dial in "Bright"
- Adjust the brightness go to 5~10 cd/m2 by using the menu select key and adjustment dial in "Contra"
- Press the menu select key to get the desired R or B Gain.
- Rotate the adjustment dial to limit the x and y color coordinate.
- Limits : x=0.281 ±0.01, y=0.311 ±0.01

④Contrast Setting
- Video Signal : 20% white box
- Adjust the brightness go to 0.08~0.11 cd/m2 by using the adjustment dial in "Bright"
- Adjust the brightness of 20% white box by rotating the adjustment dial in "Contra"
- Limits : 135 ±2.5 cd/m2

⑤Back Raster Setting again
- The method of adjustment is same to section ①

2) Color Temperature 6500°K Setting
- Select " 65 " by using the menu select key and adjustment dial.

①Back Raster, Cut-off Setting
- The method of adjustment is same to 9300°K
- The color coordinate is x=0.313 ±0.01, y=0.329 ±0.01

②Drive, contrast Setting
- The method of adjustment is same to 9300°K
- The color coordinate is x=0.313 ±0.01, y=0.329 ±0.01

4-5 Geometry Setting

- Adhere template closely to the CRT surface
- Video Signal : Cross hatch pattern in 31.5kHz to 69kHz expectively.
- Adjust the all items by using the menu/select key and adjustment dial.

1) Horizontal Position Setting
- Place the screen in center of the horizontal direction.

2) Horizontal Size Setting
- Adjust the horizontal size of the screen to 300 ±2 mm.

3) Vertical Position Setting
- Place the screen in center of the vertical direction.

4) Vertical Size Setting
- Adjust the vertical size of the screen to 225 ±2 mm.

5) Pincushion Setting
- Make the straight line to the vertical right and left line of screen.

6) Trapezoid Setting
- Make the same size to the horizontal up and bottom size of screen.

7) Parallelogram & Pin Balance
- Adjust parallerogram until vertical lines are parallel to the vertical vezel.

8) Corner Pin
- Adjust corner pin until 4 corners are parallel to the vertical vezel.

9) Rotation Setting
- Adjust rotate until horizontal lines are parallel to the vezel.

4-6 Focus

- Video Signal : " Full H " character pattern in 64kHz.
- Adjust H/V Focus VR on the top and middle of the FBT so that the image of whole screen looks clear.

5. X-Ray Protection Test

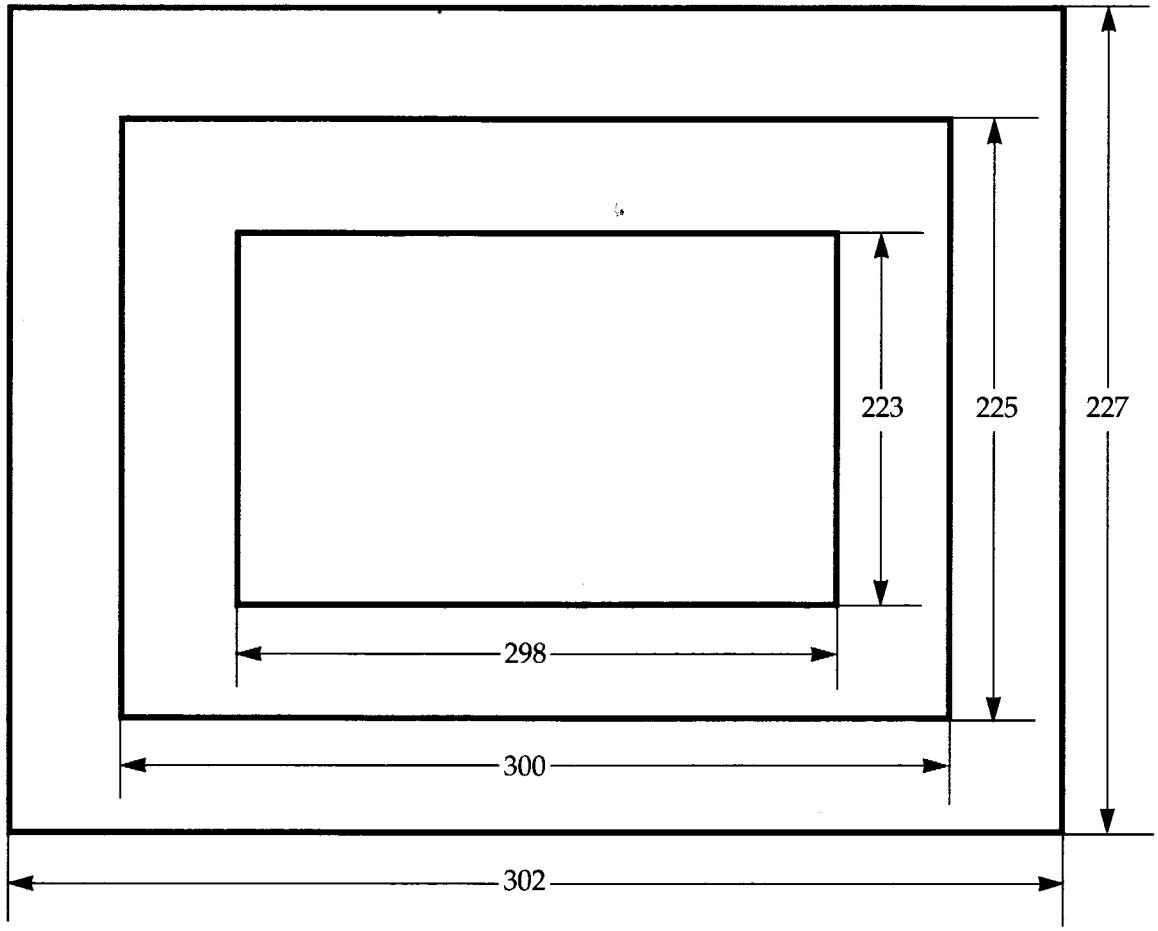
- In any signal input condition, short R307 (main board) by using the JIG.
- At this moment, check out whether raster disappears.
- Remove the JIG.
- After the power switch of the set off and on, check out proper working

6. AGING and Self Test Mode

The monitor has an enhanced level of self-diagnostics.
When the signal cable is removed or signal isn't detected, the monitor is operated to OFF-Mode.
If menu/select key is pushed on OFF-Mode, the system has the ability to generate an R.G.B test pattern and the following OSD image is displayed on screen.

Aging Mode : Monitor Burn-In mode using in product Line.

Attachment 1. Alignment Template



Specification

CRT	SIZE	17"(15.7" viewable) Diagonal, Flat
	Dot Pitch	0.27 mm
	Type	Non-glare, Anti-Static , Auti - Reflection
Input	Signal	R.G.B Analog
	Cable	15 pin D-Type male Connector
SYNC	H-F	30 kHz ~70 kHz(Automatic)
	V-F	50 Hz ~150 Hz(Automatic)
Video Bandwidth		108 MHz (-3dB)
Display	Area(H ×V) Color	300 × 225mm (Max. Over Scan) Infinite
Resolution	Max.	1280 × 1024(64kHz/60Hz)
User Controls & OSD Controls		Zoom, Recall, Brightness/Contrast, H/V-Position, H/V-Size, Pincushion/Trapezoid, Corner Pin/Rotation, H/V-Moire, Degauss, Color Control, Mode Information, Language, OSD display time, OSD adjust, DPMS Select, Soft Power down, Power Switch(Option)
Power Management		As per VESA Standard, Lower than EPA's recommendation
VESA DDC 1/2B		Basic
Compatibility		VESA, 8514/A, XGA, EVGA, MAC II
Power Source		100-240 VAC(Universal Power) 1.3A 90W
Safety & Regulation	TCO	Basic
	EMC	FCC Class B, CE
	Safety	UL, CSA, TÜV-GS, ISO-9241-3, DHHS, NEMKO, DEMKO, FIMKO, SEMKO
Temperature	Operating	0 to 40 degree celsius
	Storage	-10 to 60 degree celsius
Humidity	Operating	35% to 80% (Non-condensing)
	Storage	5% to 85%
Weight		• Unit : 16.5Kg • Gross Weight :18.5Kg(with carton)
Dimension(W ×H ×D mm)		416 × 416 × 440mm

▶Specification is subject to change without notice for performance improvement.

Critical Parts Specification

TDA4854

FEATURES

Concept features

- Full horizontal plus vertical autosync capability; TV and VCR mode included
- Extended horizontal frequency range from 15 to 130kHz
- Comprehensive set of I2C-bus driven geometry adjustments and functions, including standby mode
- Very good vertical linearity
- Moire cancellation
- Start-up and switch-off sequence for safe operation of all power components
- X-ray protection
- Flexible switched mode B+ supply function block for feedback and feed forward converter
- Internally stabilized voltage reference
- TDA-4854 : Drive signal for focus amplifiers with combined horizontal and vertical parabola waveforms
- TDA-4853 : DC controllable inputs for Extremely High Tension (EHT) compensation
- SDIP 32 package.

Synchronization

- Can handle all sync signals (horizontal, vertical, composite and sync-on-video)
- Output for video clamping (leading/trailing edge selectable by I2C-bus), vertical blanking and protection blanking
- Output for fast unlock status of horizontal synchronization and blanking on G1 of picture tube.

Horizontal section

- I2C-bus controllable wide range linear picture position, pin unbalance and parallelogram correction via horizontal phase
- Frequency locked loop for smooth catching of horizontal frequency
- TV mode at 15.625/15.750 kHz selectable by I2C-bus
- Simple frequency preset of fmin and fmax by external resistors
- Low jitter
- Soft start for horizontal and B+ control drive signals.

Vertical section

- I2C-bus controllable vertical picture size, picture position, linearity (S-correction) and linearity balance
- Output for I2C-bus controllable vertical sawtooth and parabola (for pin unbalance and parallelogram)
- Vertical picture size independent of frequency
- Differential current outputs for DC coupling to vertical booster.
- 50 to 160Hz vertical autosync range.

East-West (EW) section

- I2C-bus controllable output for horizontal pincushion, horizontal size, corner and trapezium correction
- Optional tracking of EW drive waveform with line frequency selectable by I2C-bus.

Focus section of TDA4854

- I2C-bus controllable output for horizontal and vertical parabolas
- Vertical parabola is independent of frequency and tracks with vertical adjustments
- Horizontal parabola independent of frequency
- Pre-correction of delay in focus output stage.

I2C-autosync deflection controller for PC/TV monitors

GENERAL DESCRIPTION

The TDA4854 is a high performance and efficient solution for autosync monitors. All functions are controllable by I2C-bus.

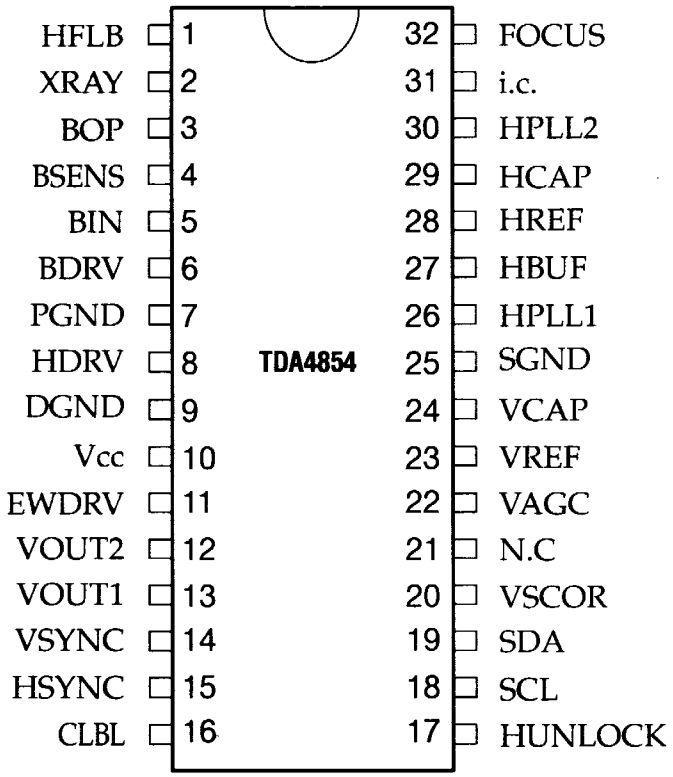
The TDA4854 provides synchronization processing, horizontal and vertical synchronization with full autosync capability, a TV/VCR mode and very short setting times after mode changes. External power components are given a great deal of protection. The IC generates the drive waveforms for DC-coupled vertical boosters such as TDA486X and TDA8351.

The TDA4854 provides extended functions e.g. as a flexible B+ control, an extensive set of geometry control facilities, and an combined output for horizontal and vertical focus signals.

The TDA4853 is an economy version of the TDA4854, especially designed for use in 14" and 15" monitors with combined EHT generation. Instead of the dynamic focus section provided by TDA4854, the TDA4853 offers two analog input pins for horizontal and vertical picture size modulation. These pins can be used i.e. for compensation of EHT modulation.

Together with the I2C-bus driven Philips TDA488X video processor family a very advanced system solution is offered.

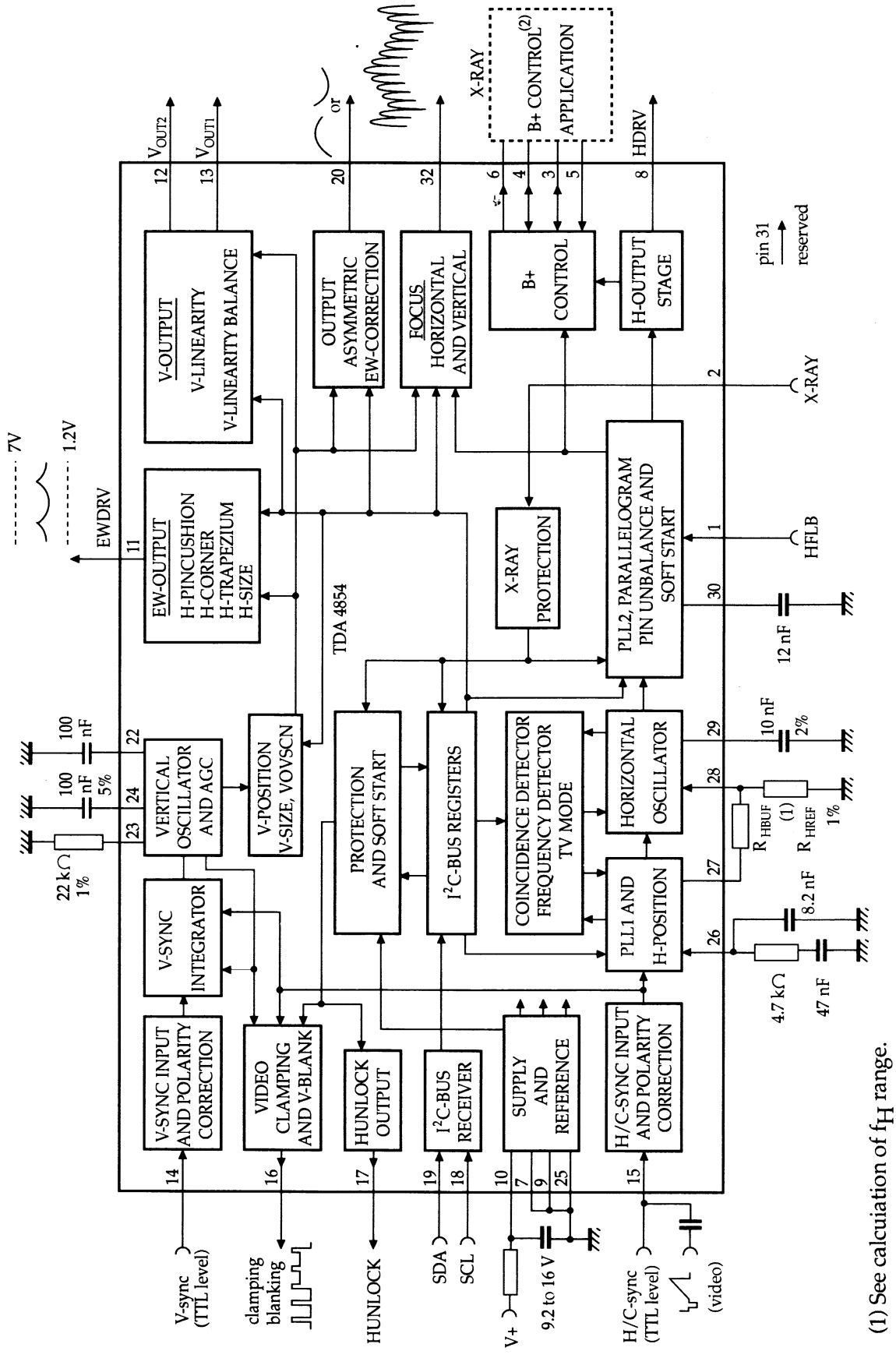
PIN CONFIGURATION



PINNING

SYMBOL TDA4854	PIN	DESCRIPTION
HFLB	1	Horizontal flyback input
XRAY	2	X-ray protection input
BOP	3	B+ control OTA output
BSENS	4	B+ control comparator input
BIN	5	B+ control OTA input
BDRV	6	B+ control driver output
PGND	7	Power ground
HDRV	8	Horizontal driver output
DGND	9	Digital ground
VCC	10	Supply voltage
EWDRV	11	EW waveform output
VOUT2	12	Vertical output 2 (ascending sawtooth)
VOUT1	13	Vertical output 1 (descending sawtooth)
VSYNC	14	Vertical synchronization input
HSYNC	15	Horizontal/composite synchronization input
CLBL	16	Video clamping pulse/vertical blanking output
HUNLOCK	17	Horizontal synchronization unlock/protection/vertical blanking output
SCL	18	I^2C-bus clock input
SDA	19	I^2C-bus data input
ASCOR	20	Output for asymmetric EW corrections
VSMOD	21	Input for EHT compensation (via vertical size)
n.c.	21	Not connected
VAGC	22	External capacitor for vertical amplitude control
VREF	23	External resistor for vertical oscillator
VCAP	24	External capacitor for vertical oscillator
SGND	25	Signal ground
HPLL1	26	External filter for PLL1
HBUF	27	Buffered f/v voltage output
HREF	28	Reference current for horizontal oscillator
HCAP	29	External capacitor for horizontal oscillator
HPLL2	30	External filter for PLL2/soft start
i.c.	31	Internal connected
HSMOD	32	Input for EHT compensation (via horizontal size)
FOCUS	32	Output for horizontal and vertical focus

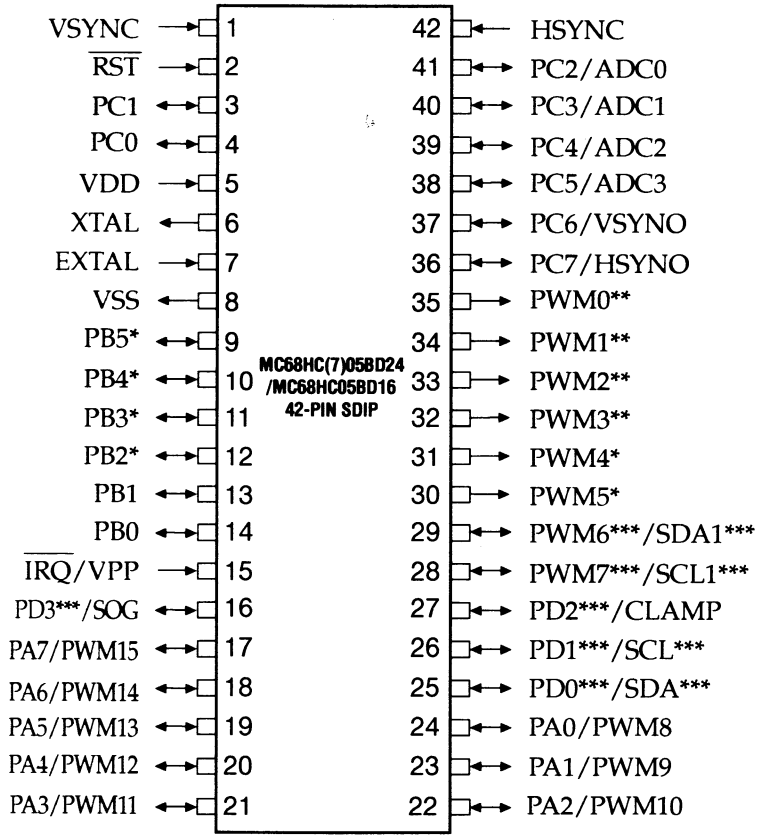
BLOCK DIAGRAM



(1) See calcuiation of f_H range.

MC68HC105BD16

PIN ASSIGNMENT



24LC08

4K 2.5V CMOS Serial EEPROMs

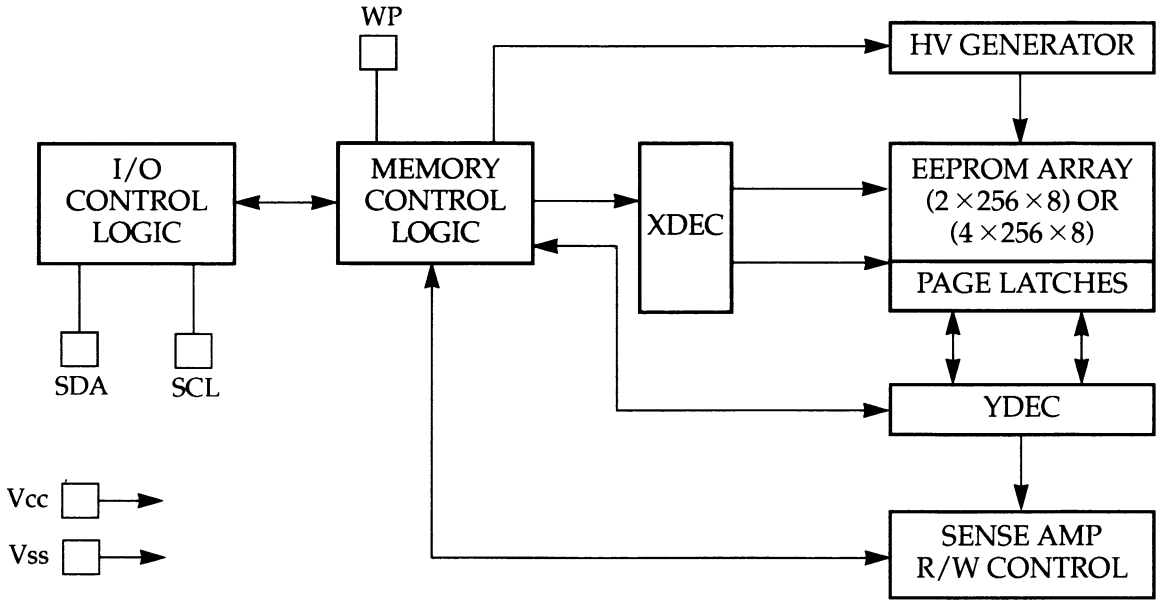
FEATURES

- Single supply with operation down to 2.5V
- Low power CMOS technology
  - 1 mA active current typical
  - 10μA standby current typical at 5.5V
  - 5 μA standby current typical at 3.0V
- Organized as two or fore blocks of 256 bytes (2 ×256 ×8) and (4 ×256 ×8)
- Two wire serial interface bus, 12CTM
- Schmitt tigger, filtered inputs for noise suppression
- Output slope control to eliminate ground bounce
- 100kHz (2.5V) and 400kHz (5V) compatibility
- Self-timed write cycle (including auto-erase)
- Page-write buffer for up to 16 bytes
- 2 ms typical write cycle time for page-write
- Hardware write cycle time for page-write
- Can be operated as a serial ROM
- Factory programming (OTP) available
- ESD protection > 4,000V
- 1,000,000 ERASE/WRITE cycles (typical)
- Data retention > 40 years
- 8-pin DIP, 8-lead or 14-lead SOIC packages
- Available for extended temperature ranges
  - Commercial : 0°C to +70°C
  - Industrial : -40°C to +85°C

DESCRIPTION

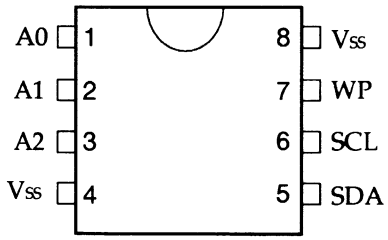
The Microchip Technology Inc. 24LC04B/08B is a 4K-or 8K-bit Electrically Erasable PROM.
The device is organized as two or four blocks of 256 × 8 bit memory with a two wire serial interface.
Low voltage design permits operation down to 2.5 volts with standby and active currents of obly 5μA and 1mA respectively.
The 24LC04B/08B also has a page-write capability for up to 16 bytes of data. The 24LC04B/08B is available in the standard 8-pin DIP and both 8-lead and 14-lead surface mount SOIC packages.

BLOCK DIAGRAM

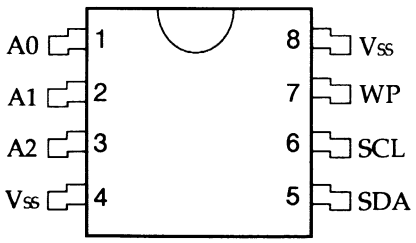


PIN CONFIGURATION

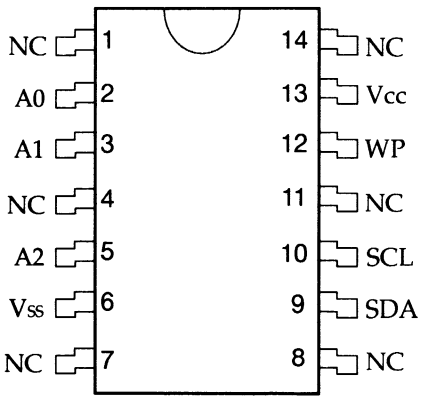
DIP Package



8-SOIC Package



14-SOIC Package



PC is a trademark of Philips Corporation

TDA4866

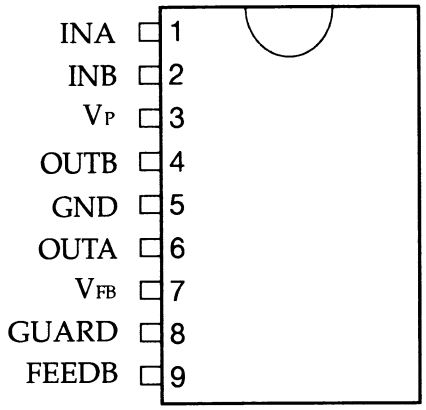
FEATURES

- Fully integrated, few external components
- No additional components in combination with the deflection controller TDA4850/51/55
- Pre-amplifier with differential high CMRR current mode inputs
- Low offsets
- High linear sawtooth signal amplification
- High efficient DC-coupled vertical output bridge circuit
- Power supply and flyback supply voltage independent adjustable to optimize power consumption and flyback time
- Powerless vertical shift
- High deflection frequency up to 140Hz
- Excellent transition behaviour during flyback
- Guard circuit for screen protection.

GENERAL DESCRIPTION

The TDA4866 is a power amplifier for use in 90 degree color vertical deflection systems for frame frequencies of 50 to 140Hz. The circuit provides a high CMRR current driven differential input. Due to the bridge configuration of the two output stages DC-coupling of the deflection coil is achieved. In conjunction with TDA4850/51/55 the ICs offer an extremely advanced system solution.

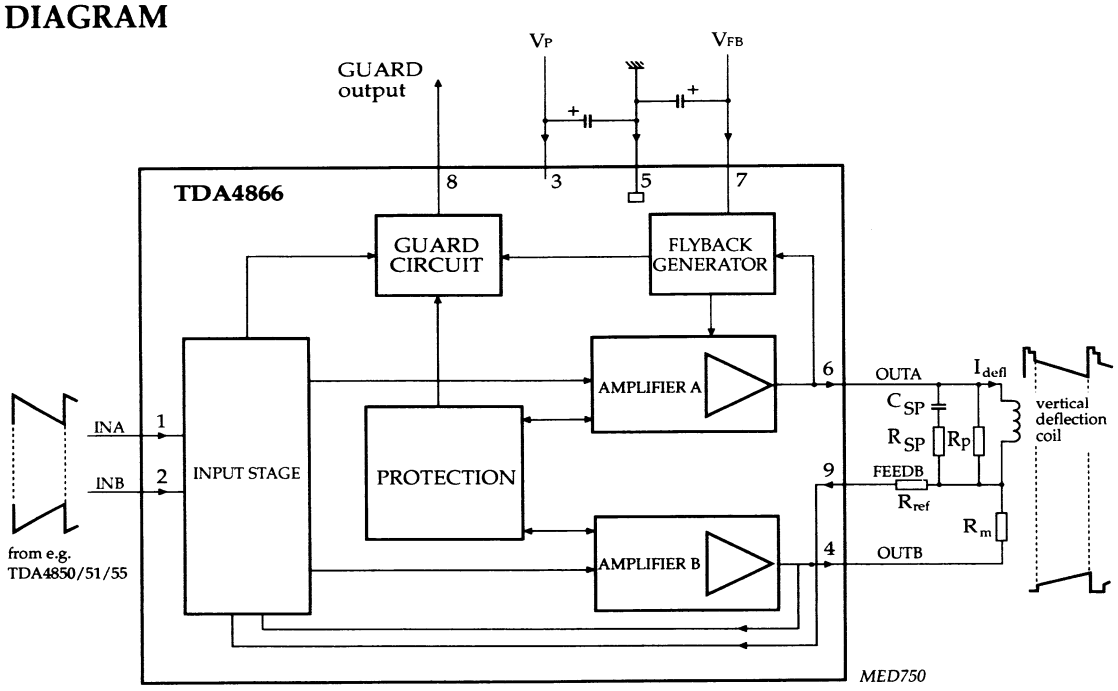
PIN CONFIGURATION



PINNING

SYMBOL	PIN	DESCRIPTION
INA	1	input A
INB	2	input B
VP	3	supply voltage
OUTB	4	output B
GND	5	ground
OUTA	6	output A
VFB	7	flyback supply voltage
GUARD	8	guard output
FEEDB	9	feedback input

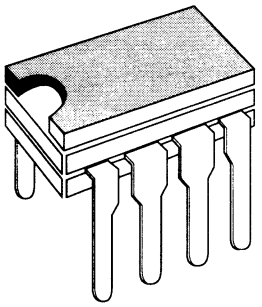
BLOCK DIAGRAM



KA3842

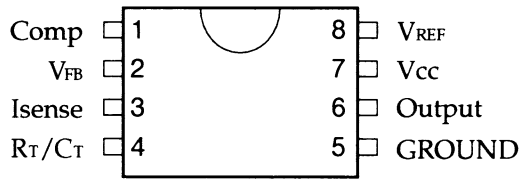
CURRENT MODE PWM CONTROLLER

- OPTIMIZED FOR OFF-LINE AND DC TO DC CONVERTERS
- LOW START-UP CURRENT (<1mA)
- AUTOMATIC FEED FORWARD COMPENSATION
- PULSE-BY-PULSE CURRENT LIMITING
- ENHANCED LOAD RESPONSE CHARACTERISTICS
- UNDER-VOLTAGE LOCKOUT WITH HYSTERESIS
- DOUBLE PULSE SUPPRESSION
- HIGH CURRENT TOTEM POLE OUTPUT
- INTERNALLY TRIMMED BANDGAP REFERENCE
- 500kHz OPERATION
- LOW Ro ERROR AMP

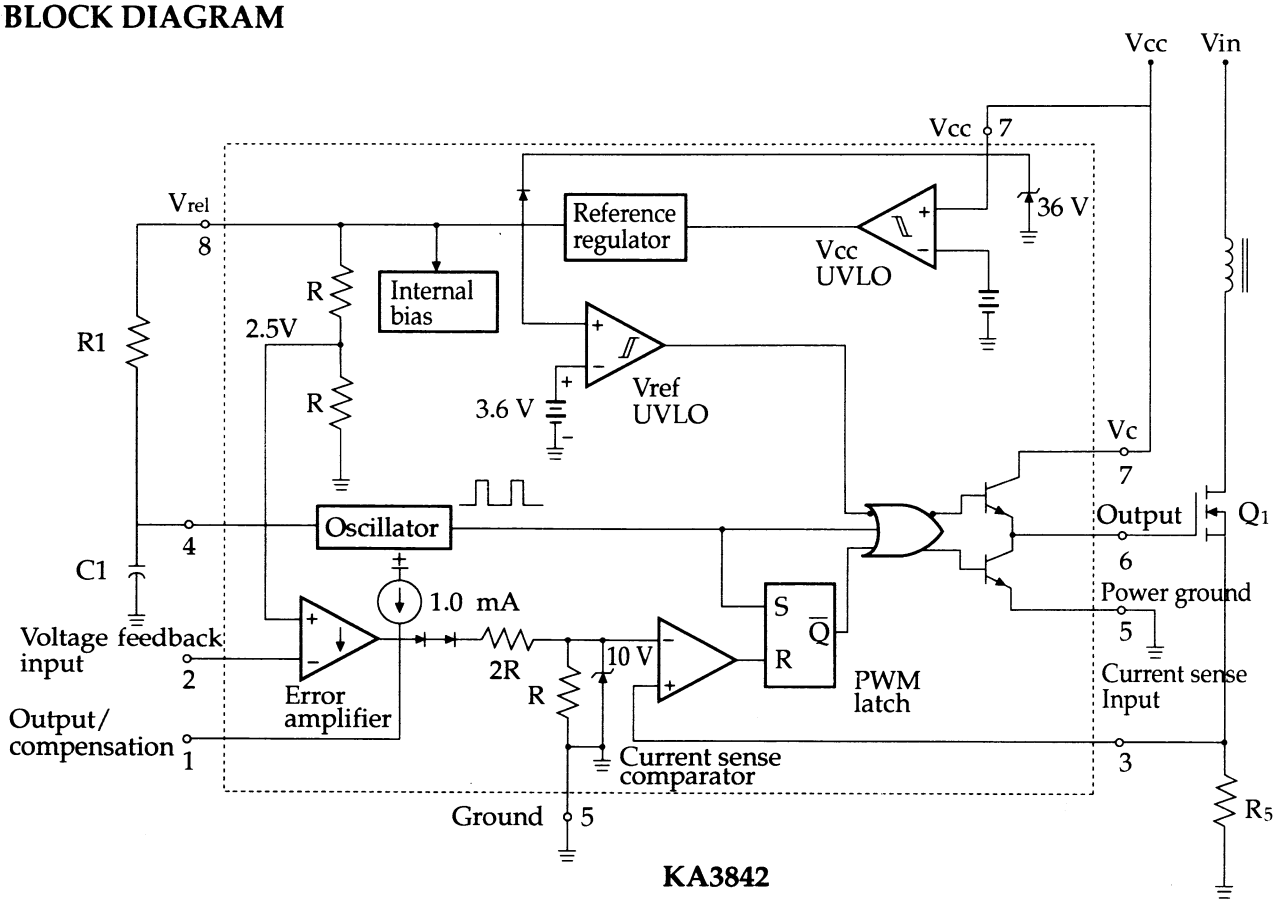


Minidip

PIN CONNECTIONS



BLOCK DIAGRAM



KA3842

MC13282E

PRODUCT PREVIEW

100MHz Video Processor
with OSD Interface

The MC13282E is a three channels wideband amplifir designed for use as a video pre-amp in high resolution RGB color monitor with OSD feature.

100MHz Video Processor with OSD Interface

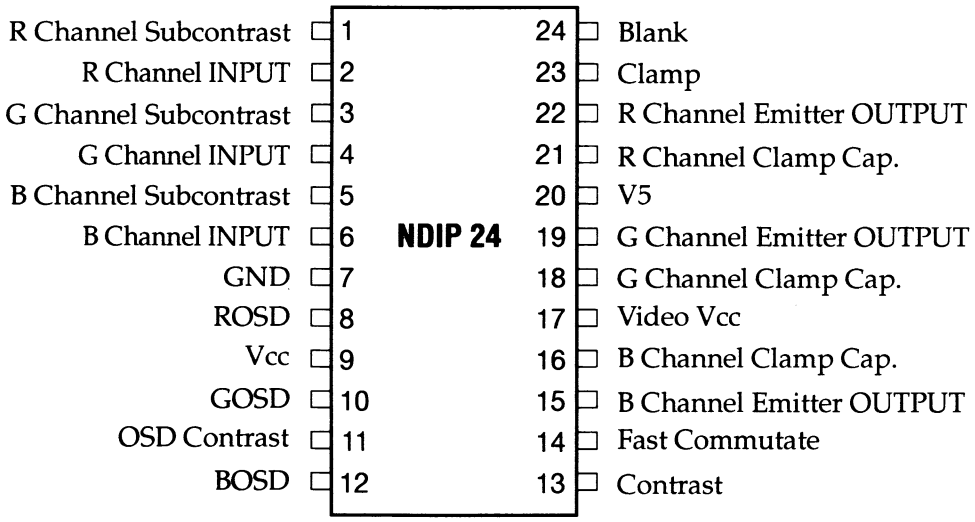
Silicon Monolithic Integrated Circuit

DEVICE	TEMPERATURE RANGE	PACKAGE
MC13202AP	0 to +70°C	Plastic DIP

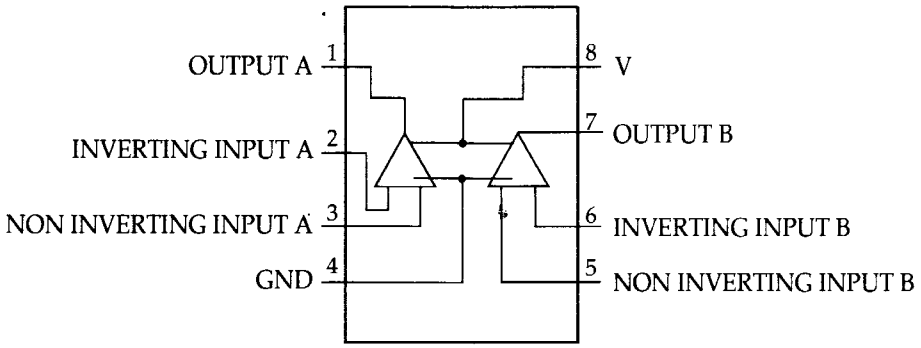
FEATURES

- 4Vp-p Output with 100MHz Bandwidth
- 3.5ns Rise/Fall time
- Subcontrast Control
- OSD Interface with 50MHz bandwith
- OSD Contrast Control
- Package : NDIP 24

PIN ASSIGNMENT (TOP VIEW)



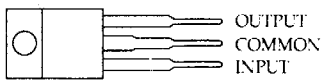
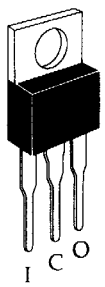
LM358



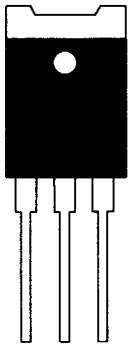
Voltage Detector ICs

Type No.	Function	Operating Voltage (V)	Package
KIA7019P/F ~7045P/F	CPU Reset, Low Voltage Detector	1.9 ~ 4.5	TO - 92 
KIA7419P/F ~7445P/F	CPU Reset, High Voltage Detector	1.9 ~ 4.5	

Voltage Regulator ICs

Type No.	Function	Typ Vo(V)	Max. Io(A)	Max. Vin(V)	Max. PD(W)	Package
KIA7805P/PI	1.0A 3-Terminal Regulator	5	1.0	35	20.8	 TO-220AB
KIA7806P/PI		6				
KIA7808P/PI		8				
KIA7809P/PI		9				
KIA7810P/PI		10				
KIA7812P/PI		12				
KIA7815P/PI		15				
KIA7818P/PI		18		40		
KIA7820P/PI		20				
KIA7824P/PI		24				

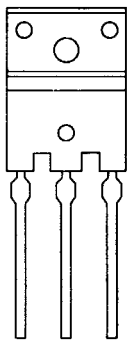
Power Transistor



(2SC5404)

RATING	SYMBOL	2SC5404	UNIT
Base Breakdown Voltage	V_{CBO}	1500	Vdc
Emitter Sustaining Voltage	$V_{CEO(SUS)}$	600	Vdc
Current-Continuous -Pulsed(1)	I_C I_{CP}	9 18	Adc
Current-Continuous -Pulsed(1)	I_B	4.5	Adc

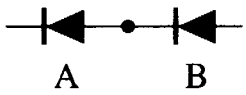
Damper Diode



DMV32/F5
FMP-2FUR

RATING	SYMBOL	DMV32/F5 FMP-2FUR		UNIT
Transient Peak Reverse Voltage	V_{RSM}	B 600	A 1500	V
Peak Reverse Voltage	V_{RM}	600	1500	V
Average Foward Current	$I_{F(AV)}$	5.0		A
Peak Surge Forward Current	I_{FSM}	50		A
Reverse Recevery Time	T_{RR}	0.1 max.	0.7 max.	μs

SYMBOL

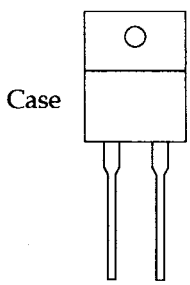


DTV32F

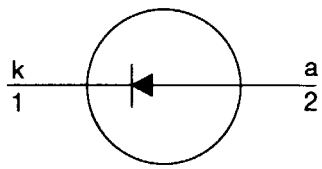
QUICK REFERENCE DATA

SYMBOL	PARAMETER	MAX.	UNIT
V_{RRM}	Repetitive peak reverse voltage	1500	V
V_F	Forward voltage	1.5	V
$I_{F(RMS)}$	RMS forward current	15	A
I_{FSM}	Non-repetitive peak forward current	75	A
t_{rr}	Reverse recovery time	0.57	μs

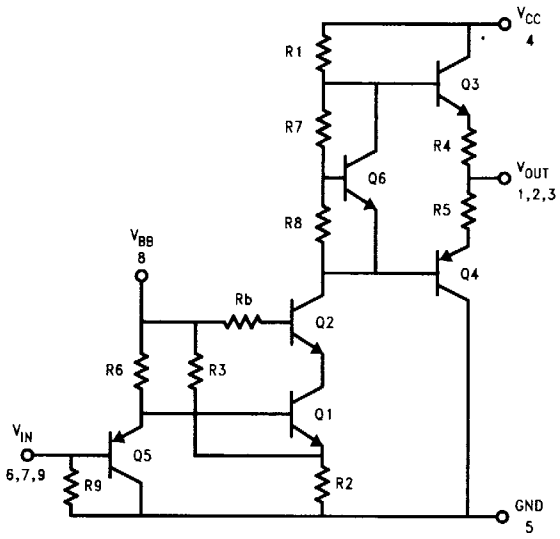
PIN CONFIGURATION



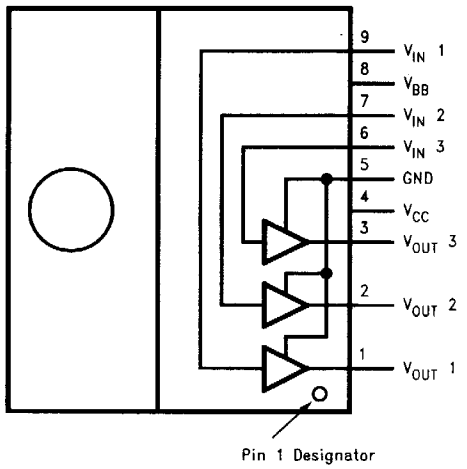
SYMBOL



LM2435

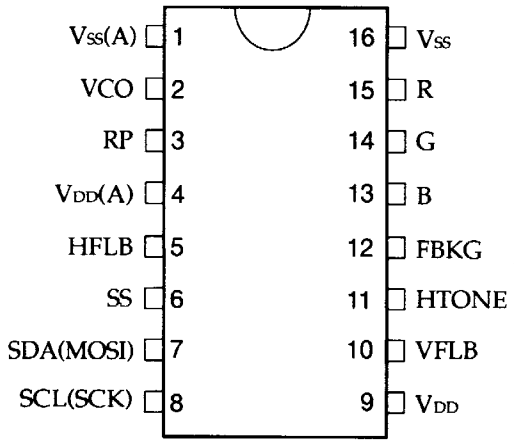


Simplified Schematic Diagram (One Channel)



Top View

LSC4388P2



▲ NOTES

1) OUTPUT SWING CAPABILITY
   50Vpp for Vcc = 80V
   50Vpp for Vcc = 70V
   30Vpp for Vcc = 60V
2) INPUT RANGE : 1~7V
3) CRT DRIVER FOR 1024×768(N-I) AND SVGA DISPLAY RESOLUTION COLOR MONITORS.
4) PIXEL CLOCK FREQUENCY UP TO 135MHz
5) VBIAS = 8V~15V

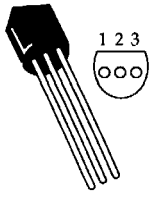
MONITOR ON-SCREEN DISPLAY

- Fixed Resolution : 320 (CGA) Dots per Line
- Fully Prograammable Character Array of 10 Rows by 24 Columns
- 375 Bytes Direct Mapping Display RAM Architecture
- Internal PLL Generates a Wide-Ranged System Clock
- For High End Monitor Application, Maximum Horizontal Frequency is 100KHz 32MHz Dot Clock)
- Programmable Vertical Hight of Character to Meet Multi-Sync Requirement
- Programmable Vertical and Horizontal Positioning for Display Center
- 128 Characters and Graphic Symbols ROM
- 10×16 Dot Matrix Character
- Character by Character Color Selection
- A Maximum of Four Selectable Color per Row
- Double Character Bordering or Shadowing
- There Fully Programmable Background Windows with Overlapping Capability
- Single Positive 5V Supply
- LSC4388P2 is replacement of XC4388P2 with two symbols added in ROM address "5C" and "5E"

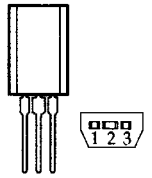
TRANSISTORS

Type No.	MAX. RATINGS			$V_{CE(SET)}$		Max				Package
	V_{CEO} (V)	I_C (mA)	P_C (mW)	(V)	I_C (mA)	I_B (mA)	1	2	3	
KSP45	350	300	1.5W	0.5	10	1	E	B	C	TO-92
KTA200Y	-50	-500	625	-0.25	-100	-10	E	C	B	TO-92
KTA1273Y	-30	-2.0A	1W	-2.0	-1.5A	-30	E	C	B	TO-92L
KTA1275Y	-160	-1.0A	1W	-1.5	-500	-50	E	C	B	TO-92L
KTA1268BL	-120	-100	400	-0.3	-10	-1	E	C	B	TO-92
KTC3400Y	120	100	625	0.3	10	1	E	C	B	TO-92
KTC200Y	50	500	625	0.25	100	10	E	C	B	TO-92
KTC3198Y	50	150	625	0.25	100	10	E	C	B	TO-92
KSC945CY	50	150	250	0.15	100	10	E	B	C	TO-92
KTC3205Y	30	2A	1W	2.0	1.5A	30	E	B	C	TO-92L
KTC3206	150	50	1W	0.5	10	1.0	E	C	B	TO-92L
KTC4348	150	1.5A	20W	1.5	500	50.0	B	C	E	TO-220IS
KRC102M	50	100	400	-0.3	-100	-0.88	E	C	B	TO-92M
2SK2564	600V (V_{DSS})	8A(I_D)	50W (P_T)	1.2 Ω (MAX) $R_{DS(ON)}$		±30V (V_{GSS})	G	D	S	TO-220IS
YTA630	200V (V_{DSS})	10A(I_D)	75W (P_T)	0.8 Ω (MAX) $R_{DS(ON)}$		±20V (V_{GSS})	G	D	S	TO-220AB

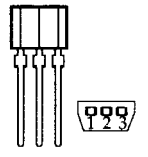
TO-92



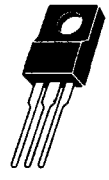
TO-92L



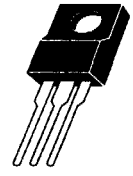
TO-92M



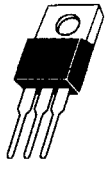
TO-220IS



TO-3P

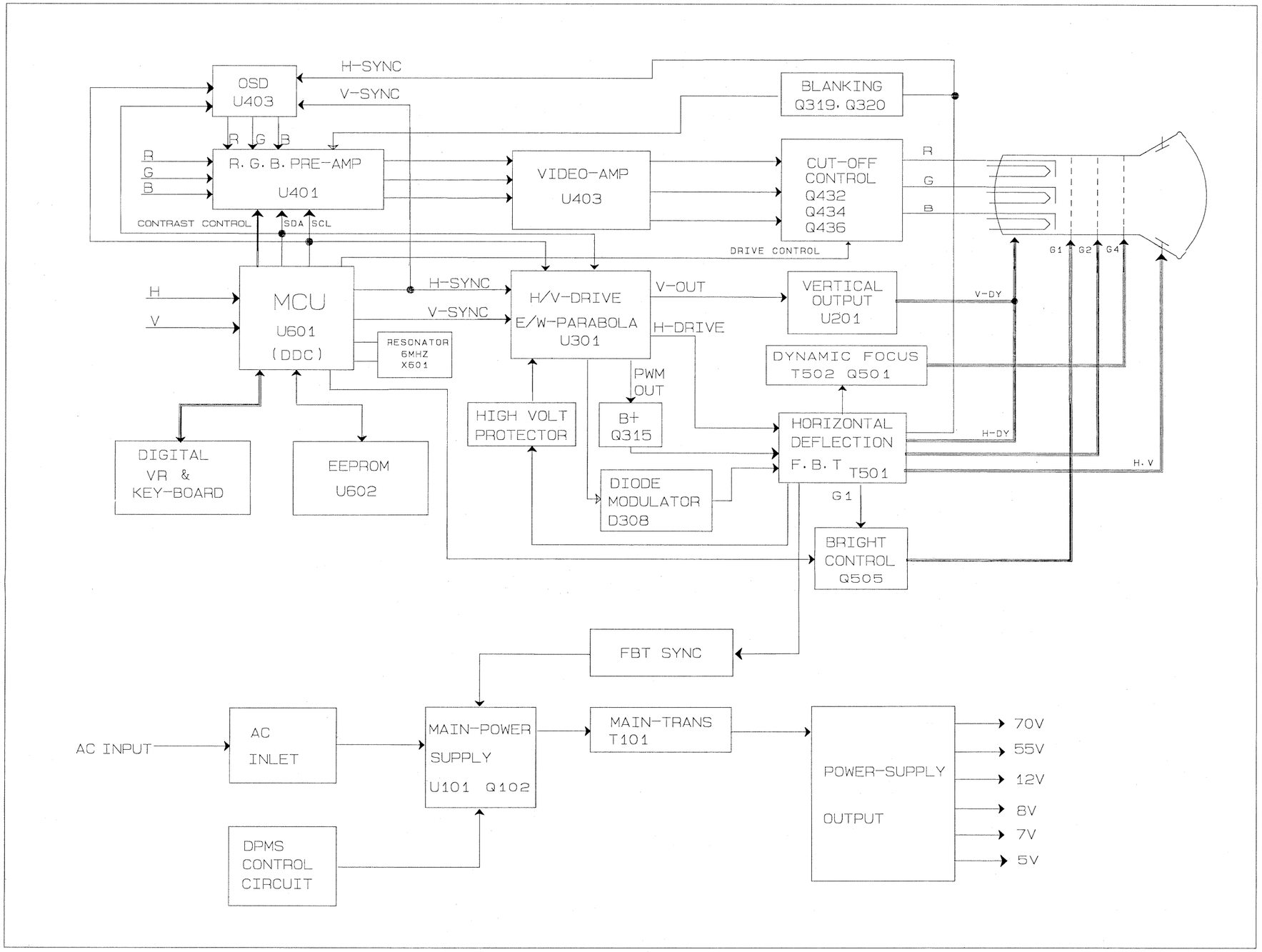


TO-220AB



Block Diagram

MODEL : S770
CHASSIS NO : C-1710



WARNING: THIS EQUIPMENT CONTAINS SAFETY CRITICAL COMPONENTS ALL PARTS SHOWN IN THE ⚠ MARKS OF THE SCHEMATIC ARE SAFETY REPLACE SAFETY CHITICAL COMPONENTS ONLY WITH MANUFACTURERS RECOMMENED PARTS LIST FOR EXACT REPLACEMENTS.

NOTE:
1. RESISTANCE IS SHOWN IN OHM K=1,000 M=1,000,000 RATED POWER OF RESISTOR NOT NOTED IN SCHEMATIC DIAGRAM IS 1/4W A-CARBON.
2. CAPACITANCE IS SHOWN PF AND NOTED CAPACITANCES IS SHOWN UF. UF=1,000,000PF RATED VOLTAGE OF CONDENCER NOT NOTED IN SCHEMATIC DIAGRAM IS 50V.
3. ABBREVIATION AND SYMBOL
   P: POLYESTER PP: POLYPROPYLENE
4. THIS SCHEMATIC DIAGRAM IS SUBJECTED TO CHANGE WITHOUT NOTICE FOR FURTHER IMPROVEMENT.

DWG. REV.	A	DESCRIPTION		DOC. NO.	DATE	APPROVAL
DWG. NO.	E42095282	SIGNATURE		DATE	INSP	SHEET NO.
TITLE	BLOCK DIAGRAM	DWN	K. S. KIM	98 12 02		1/1
HYUNDAI ELECTRONICS		CHK	W. G. PARK	98 12 02		
		APP	D. C. KIM	98 12 02		

Replacement Parts List

PRODUCT SAFETY NOTICE : COMPONENTS MARKED WITH ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY.

ABBREVIATIONS :

RD R-CARBON	CK C-CERAMIC, HK
RS R-METAL OXIDE	CE C-ELECTROLYTIC
RX R-CEMENT	CC C-CERAMIC, TEMP
RN R-METAL(±1%)	CQ C-POLYESTER, C-POLYPROPYLENE
	CF C-METAL POLYESTER C-METAL POLYPROPYLENE

NOTE : COMPONENTS OF THIS PARTS LIST CAN BE CHANGED FOR QUALITY IMPROVEMENT WITHOUT INFORMATION.

Main Board

NUM.	LOCATION	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
1	AR601	2504701038	RES-NET,4.7K 0.125W J 4P	EA	1	
2	B101	3540200058	BD-FER,BFS3550	EA	1	
3	B102	3540200058	BD-FER,BFS3550	EA	1	
4	B103	3540200058	BD-FER,BFS3550	EA	1	
5	B104	3540200059	BD-FER,BFS3580	EA	1	
6	B105	3540200059	BD-FER,BFS3580	EA	1	
7	B301	375300002401	WIRE-NS-S43MM TAP. SDA 1/	EA	1	
8	B302	3540200103	BD-FER,HF70 BTL 3.5*6B	EA	1	
9	B303	3540200058	BD-FER,BFS3550	EA	1	
10	B304	3540200058	BD-FER,BFS3550	EA	1	
11	B306	3540200059	BD-FER,BFS3580	EA	1	
12	C100	CE04BT1H2R2M	CAP-EL,SMS 50V 2.2UF M	EA	1	
13	C101	E4200700907A	CAP-X,250VAC 104M T	EA	1	
14	C102	E4200702707B	CAP-CD,Y2 4700PF M BOX T	EA	1	
15	C103	E42007009090	CAP-X,250VAC 0.22UF M	EA	1	
16	C104	2001810001	CAP-AL,180UF 400V M 25.4*	EA	1	
17	C104	6130014100	EYELET,2.7PAI BRASS T=0.4	EA	2	
18	C105	CQ92BT2A272J	CAP-PE,100V 0.0027UF J	EA	1	
19	C106	CG45FT1H104Z	CAP-CD,50V 0.1UF Z	EA	1	
20	C107	CF93BT1J334J	CAP-MPE,63V 0.33UF J	EA	1	
21	C108	CQ92BT2A332J	CAP-PE,100V 3300PF J	EA	1	
22	C109	2104710018	CAP-CER,470PF 50V J SL	EA	1	
23	C110	CQ92BT2A103J	CAP-PE,100V 0.01UF J	EA	1	
24	C111	2104710018	CAP-CER,470PF 50V J SL	EA	1	
25	C112	2172210002	CAP-P-F,220PF 1600V K RAD	EA	1	
26	C113	CE04BT1E101M	CAP-EL,SMS 25V 100UF M	EA	1	
27	C114	2173330009	CAP-P-F,0.033UF 400V K RA	EA	1	
28	C115	E4200702707B	CAP-CD,Y2 4700PF M BOX T	EA	1	
29	C116	210472001501	CAP-CER,Y1 4700PF M NO-CU	EA	1	
30	C118	2002210068	CAP-AL,220UF 100V M 13*25	EA	1	
31	C119	CE04BT2A101M	CAP-EL,SMS 100V 100UF M	EA	1	
32	C120	2004710044	CAP-AL,470UF 35V M 10*20	EA	1	
33	C121	CE04BT1E101M	CAP-EL,SMS 25V 100UF M	EA	1	
34	C122	CK45BT3A101K	CAP-CD,1KV 100PF 10%	EA	1	
35	C123	CE04BT1E331M	CAP-EL,SMS 25V 330UF M	EA	1	
36	C124	2172210002	CAP-P-F,220PF 1600V K RAD	EA	1	
37	C125	CE04BT1E221M	CAP-EL,SMS 25V 220UF M	EA	1	
38	C126	CE04BT1H4R7M	CAP-EL,SMS 50V 4.7UF M	EA	1	
39	C127	CE04BT2A101M	CAP-EL,SMS 100V 100UF M	EA	1	
40	C128	210472001501	CAP-CER,Y1 4700PF M NO-CU	EA	1	
41	C130	CQ92BT2A103J	CAP-PE,100V 0.01UF J	EA	1	
42	C134	2173330009	CAP-P-F,0.033UF 400V K RA	EA	1	
43	C205	CQ92BT2A222J	CAP-PE,100V 0.0022UF J	EA	1	
44	C206	CQ92BT2A222J	CAP-PE,100V 0.0022UF J	EA	1	
45	C207	CE04BT1E471M	CAP-EL,SMS 25V 470UF M	EA	1	
46	C211	2001010098	CAP-AL,100UF 63V M 10*20	EA	1	
47	C213	CQ92BT2A104J	CAP-PE,100V 0.1UF J	EA	1	

NUM.	LOCATION	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
48	C214	CQ92BT2A473J	CAP-PE,100V 0.047UF J	EA	1	
49	C215	CF93BT1J334J	CAP-MPE,63V 0.33UF J	EA	1	
50	C216	2141040020	CAP-M-P,0.1UF 250V J RAD	EA	1	
51	C301	2001000066	CAP-AL,10UF 25V M 4*5.2 P	EA	1	
52	C304	CE04BT1E470M	CAP-EL,SMS 25V 47UF M	EA	1	
53	C305	CG45FT1H104Z	CAP-CD,50V,0.1UF Z	EA	1	
54	C306	CK45BT1H101K	CAP-CD,50V 100PF K	EA	1	
55	C307	CK45BT1H101K	CAP-CD,50V 100PF K	EA	1	
56	C308	CQ92BT2A103J	CAP-PE,100V 0.01UF J	EA	1	
57	C309	CE04BT1C220M	CAP-EL,SMS 16V 22UF M	EA	1	
58	C310	CQ92BT2A104J	CAP-PE,100V 0.1UF J	EA	1	
59	C311	CQ92BT2A152J	CAP-PE,100V 1500PF J	EA	1	
60	C312	CE04SN1E102M	C-ELEC,SHL,25V,1000UF,M	EA	1	
61	C313	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
62	C314	CQ92BT2A472J	CAP-PE,100V 0.0047UF J	EA	1	
63	C315	CK45BT1H101K	CAP-CD,50V 100PF K	EA	1	
64	C316	CQ92BT2A104J	CAP-PE,100V 0.1UF J	EA	1	
65	C317	CQ92BT2A104J	CAP-PE,100V 0.1UF J	EA	1	
66	C318	CQ92BT2A332J	CAP-PE,100V 3300PF J	EA	1	
67	C319	CF93BT1J474J	CAP-MPE,63V 0.47UF J	EA	1	
68	C320	CQ92BT2A103J	CAP-PE,100V 0.01UF J	EA	1	
69	C321	2171230005	CAP-P-F,0.012UF 100V J RA	EA	1	
70	C322	CQ92BT2A104J	CAP-PE,100V 0.1UF J	EA	1	
71	C331	CQ92BT2A104J	CAP-PE,100V 0.1UF J	EA	1	
72	C332	CK45BT3A681K	CAP-CD,1KV 680PF K TAP	EA	1	
73	C333	CE04BT1E470M	CAP-EL,SMS 25V 47UF M	EA	1	
74	C334	CE04BT1H010M	CAP-EL,SMS 50V 1UF M	EA	1	
75	C335	CE04BT1E101M	CAP-EL,SMS 25V 100UF M	EA	1	
76	C336	CQ92BT2A102J	CAP-PE,100V 0.001UF J	EA	1	
77	C337	2001010098	CAP-AL,100UF 63V M 10*20	EA	1	
78	C338	217512000101	CAP-P-F,1.6KV 512G 20.0 T	EA	1	⚠
79	C339	214854000101	CAP-M-P,400V 854J 20.0 T	EA	1	
80	C340	217502000201	CAP-P-F,502J/1KV TAP	EA	1	⚠
81	C341	2172740002	CAP-P-F,0.27UF 250V J RAD	EA	1	
82	C342	2172740002	CAP-P-F,0.27UF 250V J RAD	EA	1	
83	C343	CE04BT1H010M	CAP-EL,SMS 50V 1UF M	EA	1	
84	C344	217104001601	CAP-P-F,0.1UF 250V J 7.5	EA	1	
85	C345	CE04BT1H010M	CAP-EL,SMS 50V 1UF M	EA	1	
86	C346	2172230011	CAP-P-F,0.022UF 250V J RA	EA	1	
87	C348	2002200068	CAP-AL,22UF 200V M 13*35	EA	1	
88	C349	CK45BT3A331K	CAP-CE,1KV 330PF K TAP	EA	1	
89	C350	CQ92BT2A104J	CAP-PE,100V 0.1UF J	EA	1	
90	C351	CQ92BT2A104J	CAP-PE,100V 0.1UF J	EA	1	
91	C352	2173330010	CAP-P-F,0.033UF 250V J RA	EA	1	
92	C353	CF93BT1J105J	CAP-MPE,63V 1UF J	EA	1	
93	C354	CQ92BT2A104J	CAP-PE,100V 0.1UF J	EA	1	
94	C355	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
95	C356	CE04BT1V101M	CAP-EL,SMS 35V 100UF M	EA	1	

NUM.	LOCATION	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
96	C358	CQ92BT2A473J	CAP-PE,100V 0.047UF J	EA	1	
97	C359	2144730010	CAP-M-P,0.047UF 250V J PE	EA	1	
98	C362	2176810010	CAP-P-F,680PF 100V J RAD	EA	1	
99	C364	CQ92BT2A102J	CAP-PE,100V 0.001UF J	EA	1	
100	C366	CQ92BT2A332J	CAP-PE,100V 3300PF J	EA	1	
101	C368	2101510007	CAP-CER,150PF 1KV K Y5P	EA	1	
102	C369	CQ92BT2A473J	CAP-PE,100V 0.047UF J	EA	1	
103	C370	E44007011220	CAP-MCD,COG 50V 680PF J	EA	1	
104	C501	CQ92BT2A104J	CAP-PE,100V 0.1UF J	EA	1	
105	C502	2002280013	CAP-AL,0.22UF 200V M 5*11	EA	1	
106	C504	CE04BT2C220M	CAP-EL,SMS 160V 22UF M	EA	1	
107	C505	CE04BT1E221M	CAP-EL,SMS 25V 220UF M	EA	1	
108	C506	CE04BT1V331M	CAP-EL,SMS 35V 330UF M	EA	1	
109	C507	2001000056	CAP-AL,10UF 250V M 10*20	EA	1	
110	C509	2142240025	CAP-M-P,0.22UF 400V J PP	EA	1	
111	C510	CK45BT3D221K	CAP-CD,Y5P 2 KV 220 PF K	EA	1	
112	C511	CK45BT3A102K	CAP-CD,1KV 1000PF 10%	EA	1	
113	C512	2001090055	CAP-AL,1UF 50V M 5*11 NP	EA	1	
114	C513	CG45FT1H104Z	CAP-CD,50V 0.1UF Z	EA	1	
115	C514	2101520006	CAP-CER,1500PF 1000V K Y5	EA	1	
116	C516	2101030035	CAP-CER,0.01UF 1KV K Y5P	EA	1	
117	C601	2133300004	CAP-MULT,33PF 50V J AXI	EA	1	
118	C602	2133300004	CAP-MULT,33PF 50V J AXI	EA	1	
119	C606	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
120	C607	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
121	C608	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
122	C611	2001000066	CAP-AL,10UF 25V M 4*5.2 P	EA	1	
123	C612	CG45FT1H104Z	CAP-CD,50V 0.1UF Z	EA	1	
124	C614	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
125	C615	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
126	C616	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
127	C617	CE04BT1H2R2M	CAP-EL,SMS 50V 2.2UF M	EA	1	
128	C618	CE04BT1H010M	CAP-EL,SMS 50V 1UF M	EA	1	
129	C623	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
130	C626	CG45FT1H104Z	CAP-CD,50V 0.1UF Z	EA	1	
131	C628	CC45CT1H331J	CAP-CD,50V 330PF J	EA	1	
132	C629	CQ92BT2A102J	CAP-PE,100V 0.001UF J	EA	1	
133	C632	2001000066	CAP-AL,10UF 25V M 4*5.2 P	EA	1	
134	C633	2001000066	CAP-AL,10UF 25V M 4*5.2 P	EA	1	
135	C634	CG45FT1H104Z	CAP-CD,50V 0.1UF Z	EA	1	
136	C635	2001000066	CAP-AL,10UF 25V M 4*5.2 P	EA	1	
137	C637	2133300004	CAP-MULT,33PF 50V J AXI	EA	1	
138	C638	2133300004	CAP-MULT,33PF 50V J AXI	EA	1	
139	C639	CK45BT1H271K	CAP-CD,50V 270PF K Y5P	EA	1	
140	D101	DT1N4148	DIODE,1N4148 TAPING	EA	1	
141	D102	DT1N4148	DIODE,1N4148 TAPING	EA	1	
142	D103	DT1N4937	DIODE,1N4937 TAPING	EA	1	
143	D104	DT1N4936	DIODE,400V 1.0A 1N4936	EA	1	

NUM.	LOCATION	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
144	D105	3100500093	DI-SW,S3L60-4004P15 LEAD	EA	1	
145	D106	DTBYV26E	DIODE,BYV26E SORTED	EA	1	
146	D107	3100500097	DI-SW,S3L40-4004P20 LEAD	EA	1	
147	D108	3100500097	DI-SW,S3L40-4004P20 LEAD	EA	1	
148	D109	DT1N4937	DIODE,1N4937 TAPING	EA	1	
149	D110	3100500093	DI-SW,S3L60-4004P15 LEAD	EA	1	
150	D111	DT1N5398	DIODE 1N5398 TAPING	EA	1	
151	D112	DT1N5398	DIODE 1N5398 TAPING	EA	1	
152	D113	DT1N5398	DIODE 1N5398 TAPING	EA	1	
153	D114	DT1N5398	DIODE 1N5398 TAPING	EA	1	
154	D130	DT1N4148	DIODE,1N4148 TAPING	EA	1	
155	D303	3101000347	DI-ZN,BZX55-C62 LEAD	EA	1	
156	D304	DT1N4148	DIODE,1N4148 TAPING	EA	1	
157	D305	DT1N4007	DIODE,1000V 1.0A TAP	EA	1	
158	D306	DT1N4007	DIODE,1000V 1.0A TAP	EA	1	
159	D307	DTUZ-12BSB	DIODE,ZENER UZ-12BSB TAP	EA	1	
160	D308	3102000225	DI-REC,DMV32/F5 LEAD	EA	1	
161	D308	M11143008012	SCREW,BIN(+) M3*8 MSZPC	EA	1	
162	D308	M31100030012	NUT HEX,6N1-3 MSZPC	EA	1	
163	D310	DT1N4004	DIODE,400V 1.0A TAP	EA	1	
164	D311	DT1N4004	DIODE,400V 1.0A TAP	EA	1	
165	D312	3100500093	DI-SW,S3L60-4004P15 LEAD	EA	1	
166	D313	DT1N4148	DIODE,1N4148 TAPING	EA	1	
167	D314	DTRGP15J	DIODE,600V/10UA 1.5A/1.2V	EA	1	
168	D315	3100500144	DI-SW,D1NL40 LEAD	EA	1	
169	D317	DT1N4004	DIODE,400V 1.0A TAP	EA	1	
170	D318	3102000217	DI-REC,DTV32F LEAD	EA	1	
171	D321	DT1N4148	DIODE,1N4148 TAPING	EA	1	
172	D322	DT1N4148	DIODE,1N4148 TAPING	EA	1	
173	D323	DT1N4148	DIODE,1N4148 TAPING	EA	1	
174	D501	DT1N4936	DIODE,400V 1.0A 1N4936	EA	1	
175	D502	DT1N4936	DIODE,400V 1.0A 1N4936	EA	1	
176	D504	DT1N4004	DIODE,400V 1.0A TAP	EA	1	
177	D505	DT1N4936	DIODE,400V 1.0A 1N4936	EA	1	
178	D506	DT1N4004	DIODE,400V 1.0A TAP	EA	1	
179	D507	DT1N4148	DIODE,1N4148 TAPING	EA	1	
180	D509	DT1N4148	DIODE,1N4148 TAPING	EA	1	
181	D510	DT1N4148	DIODE,1N4148 TAPING	EA	1	
182	D511	DTBYV26E	DIODE,BYV26E SORTED	EA	1	
183	D512	DTBYV26E	DIODE,BYV26E SORTED	EA	1	
184	D513	DTRGP02-12	DIODE,RGP02-12	EA	1	
185	D601	DT1N4148	DIODE,1N4148 TAPING	EA	1	
186	D602	DT1N4148	DIODE,1N4148 TAPING	EA	1	
187	D610	DT1N4148	DIODE,1N4148 TAPING	EA	1	
188	D611	DTUZ-5.1BSB	DIODE,ZENER UZ-5.1BSB TAP	EA	1	
189	D612	DTUZ-5.1BSB	DIODE,ZENER UZ-5.1BSB TAP	EA	1	
190	D613	3104100095	DI-SCHOT,SB020 LEAD	EA	1	
191	F101	E42025012060	FUSE,TIME LAG 19181 3.15A	EA	1	

NUM.	LOCATION	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
192	F101	E42076013010	FUSE CLIP,TAPING	EA	2	
193	G2	3720101316	CONN-M,DPP-150 1	EA	1	
194	G501	3411100043	VARISTOR,S23 1500V 1500V	EA	1	
195	L101	352020008601	FLT-LC,SEQ2828 13MH	EA	1	
196	L301	3500100909	INDUCT-FIX,CHOKE 65UH 142	EA	1	
197	L302	3500100508	INDUCT-FIX,LIN DR1415 5PI	EA	1	
198	L303	3500100687	INDUCT-FIX,WIDTH 110UH 70	EA	1	
199	L304	3500100511	INDUCT-FIX,SIZE DR1523 5P	EA	1	
200	L305	3500100523	INDUCT-FIX,DR0808 8.2MH M	EA	1	
201	L306	2401009009	RES-CF,10 0.5W J M	EA	1	
202	L307	3500101344	INDUCT-FIX,AL04TB220K K A	EA	1	
203	LD101	3330600332	LED,A96B/GYW/S1	EA	1	
204	P101	6130014100	EYELET,2.7PAI BRASS T=0.4	EA	2	
205	P101	372500448602	CONN-A,AC INLET ASSY ALL	EA	1	
206	P101	M11173008012	SCREW FLT(+) M3*8 MSZPC	EA	2	
207	P102	3720101302	CONN-M,YW396-03V(2ND P DE	EA	1	
208	P301	3720101777	CONN-M,SMW200-13P	EA	1	
209	P302	3720101469	CONN-M,35312-0310 3	EA	1	
210	P303	3720101390	CONN-M,SMW200-08P	EA	1	
211	P501	6130014100	EYELET,2.7PAI BRASS T=0.4	EA	1	
212	P503	372010105301	CONN-M,POST 1P DEGT235 14	EA	1	
213	P504	375500076906	WIRE-ASS'Y,G2 350MM A720	EA	1	
214	P601	3720101389	CONN-M,SMW200-07P	EA	1	
215	Q101	TTKTA1015Y	TR,KTA1266Y	EA	1	
216	Q102	3114000105	FET,2SK2564-4112 LEAD	EA	1	
217	Q102	6124030303	H-SINK POWER,L=45 7770C	EA	1	
218	Q102	6130014100	EYELET,2.7PAI BRASS T=0.4	EA	2	
219	Q102	M11143008012	SCREW,BIN(+) M3*8 MSZPC	EA	1	
220	Q103	TTKSA614Y	TR,KSA614Y	EA	1	
221	Q104	TTKRC102M	TR,SWITCHING KRC102M	EA	1	
222	Q105	TTKSP45	TR,KSP45	EA	1	
223	Q106	TTKTC1815Y	TR,KTC3198Y	EA	1	
224	Q107	TTKTA966AY	TR,KTA1273Y	EA	1	
225	Q108	TTKRC102M	TR,SWITCHING KRC102M	EA	1	
226	Q205	TTKTC1815Y	TR,KTC3198Y	EA	1	
227	Q302	TTKTC200Y	TR,KTC200Y TAP	EA	1	
228	Q303	TTKRC102M	TR,SWITCHING KRC102M	EA	1	
229	Q304	TTKSC945CY	TR,KSC945C-Y	EA	1	
230	Q305	TTKSC945CY	TR,KSC945C-Y	EA	1	
231	Q306	TTKTC1815Y	TR,KTC3198Y	EA	1	
232	Q307	TTKTC3205Y	TR,SWITCHING KTC3205Y	EA	1	
233	Q308	TTKTA966AY	TR,KTA1273Y	EA	1	
234	Q309	3114000125	FET,IRF640A LEAD	EA	1	
235	Q309	6124020504	H-SINK POWER(35MM),L5854C	EA	1	
236	Q309	M11143008012	SCREW,BIN(+) M3*8 MSZPC	EA	1	
237	Q310	3114000107	FET,YTA630/IRF630M LEAD	EA	1	
238	Q311	3110100601	TR-GEN,2SC5404 LEAD	EA	1	
239	Q311	6130014100	EYELET,2.7PAI BRASS T=0.4	EA	1	

NUM.	LOCATION	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
240	Q311	M11143010012	SCREW,BIN(+) 3X10 MSZPC	EA	1	
241	Q311	M31100030012	NUT HEX,6N1-3 MSZPC	EA	1	
242	Q312	3114000107	FET,YTA630/IRF630M LEAD	EA	1	
243	Q313	TTKTC200Y	TR,KTC200Y TAP	EA	1	
244	Q314	TTKTA200Y	TR,KTA200Y TAP	EA	1	
245	Q315	3114000140	FET,YTA63Q LEAD S770	EA	1	
246	Q315	6130014100	EYELET,2.7PAI BRASS T=0.4	EA	1	
247	Q315	B4212501006A	H/SINK PWR(N),ANODIZE 60M	EA	1	
248	Q315	M11143008012	SCREW,BIN(+) M3*8 MSZPC	EA	1	
249	Q316	3110100665	TR-GEN,KTD2061-Y LEAD	EA	1	
250	Q316	B4212501005A	HEAT SINK PWR(N)ANODIZE 4	EA	1	
251	Q316	M11143008012	SCREW,BIN(+) M3*8 MSZPC	EA	1	
252	Q317	TTKTA1275Y	TR,KTA1275Y	EA	1	
253	Q318	TTKRC102M	TR,SWITCHING KRC102M	EA	1	
254	Q319	TTKTA1015Y	TR,KTA1266Y	EA	1	
255	Q320	TTKTA1015Y	TR,KTA1266Y	EA	1	
256	Q328	TTKTC1815Y	TR,KTC3198Y	EA	1	
257	Q329	TTKTA1015Y	TR,KTA1266Y	EA	1	
258	Q502	TTKTA200Y	TR,KTA200Y TAP	EA	1	
259	Q503	TTKSP45	TR,KSP45	EA	1	
260	Q505	TTKTC1815Y	TR,KTC3198Y	EA	1	
261	Q506	TTKTA1275Y	TR,KTA1275Y	EA	1	
262	Q507	3110100517	TR-GEN,2SC4686A LEAD	EA	1	
263	Q601	TTKTC1815Y	TR,KTC3198Y	EA	1	
264	Q602	3110100705	TR-GEN,KRC105M LEAD	EA	1	
265	Q630	TTKSC945CY	TR,KSC945C-Y	EA	1	
266	Q631	TTKSC945CY	TR,KSC945C-Y	EA	1	
267	R101	2401004008	RES-CF,1M 0.5W J M	EA	1	
268	R102	2408208004	RES-CF,8.2 0.5W J M	EA	1	
269	R103	2461808003	RES-MOF,1.8 1W J M	EA	1	
270	R104	2401004008	RES-CF,1M 0.5W J M	EA	1	
271	R105	RD-4P0T0473J	RES-CF,RD 1/4W 47K OHM J	EA	1	
272	R107	2465602004	RES-MOF,56K 1W J M	EA	1	
273	R108	2401004008	RES-CF,1M 0.5W J M	EA	1	
274	R109	RD-4P0T0223J	RES-CF,RD 1/4W 22K OHM J	EA	1	
275	R110	2562002002	RES-CEM,20K 5W J V	EA	1	
276	R112	RD-4P0T0470J	RES-CF,RD 1/4W 47 OHM J	EA	1	
277	R113	RD-4P0T0154J	RES-CF,RD 1/4W 150K OHM J	EA	1	
278	R114	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	
279	R115	RD-4P0T0154J	RES-CF,RD 1/4W 150K OHM J	EA	1	
280	R116	RD-4P0T0204J	RES-CF,RD 1/4W 200K OHM J	EA	1	
281	R117	RN-4P0T2202F	RES-MF,RN 1/4W 22KOHM F	EA	1	
282	R118	RD-4P0T0560J	RES-CF,RD 1/4W 56 OHM J	EA	1	
283	R119	RD-4P0T0102J	RES-CF,RD 1/4W 1K OHM J	EA	1	
284	R121	RN-4P0T2202F	RES-MF,RN 1/4W 22KOHM F	EA	1	⚠
285	R122	RD-4P0T0102J	RES-CF,RD 1/4W 1K OHM J	EA	1	
286	R123	2460208001	RES-MOF,0.2 2W J M	EA	1	
287	R124	RD-4P0T0473J	RES-CF,RD 1/4W 47K OHM J	EA	1	

NUM.	LOCATION	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
288	R125	RD-4P0T0330J	RES-CF,RD 1/4W 33 OHM J	EA	1	
289	R126	2461000007	RES-MOF,100 1W J M	EA	1	
290	R128	RD-4P0T0681J	RES-CF,RD 1/4W 680 OHM J	EA	1	
291	R129	2401001010	RES-CF,1K 0.5W J M	EA	1	
292	R130	RD-4P0T0681J	RES-CF,RD 1/4W 680 OHM J	EA	1	
293	R131	RD-4P0T0102J	RES-CF,RD 1/4W 1K OHM J	EA	1	
294	R133	RD-4P0T0683J	RES-CF,RD 1/4W 68K OHM J	EA	1	
295	R201	RD-4P0T0101J	RES-CF,RD 1/4W 100 OHM J	EA	1	
296	R219	RD-4P0T0102J	RES-CF,RD 1/4W 1K OHM J	EA	1	
297	R220	RD-4P0T0102J	RES-CF,RD 1/4W 1K OHM J	EA	1	
298	R221	RD-4P0T0220J	RES-CF,RD 1/4W 22 OHM J	EA	1	
299	R222	2402601001	RES-CF,2.6K 0.25W J A	EA	1	
300	R223	240150000701	RES-CF,150 0.5W J M	EA	1	
301	R225	2461008006	RES-MOF,1 1W J M	EA	1	
302	R227	RD-4P0T0362J	RES-CF,RD 1/4W 3.6K OHM J	EA	1	
303	R228	RD-4P0T0123J	RES-CF,RD 1/4W 12K OHM J	EA	1	
304	R229	RD-4P0T0222J	RES-CF,RD 1/4W 2.2K OHM J	EA	1	
305	R230	RD-4P0T0153J	RES-CF,RD 1/4W 15K OHM J	EA	1	
306	R303	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	
307	R304	RD-4P0T0333J	RES-CF,RD 1/4W 33K OHM J	EA	1	
308	R305	RN-4P0T1202F	RES-MF,RN 1/4W 12K OHM F	EA	1	⚠
309	R306	RN-4P0T2002F	RES-MF,RN 1/4W 20KOHM F	EA	1	⚠
310	R307	2442432001	RES-MF,24.3K 0.25W F A	EA	1	⚠
311	R308	RD-4P0T0103J	RES-CF,RD 1/4W 10K OHM J	EA	1	
312	R309	RD-8P0T0220J	RES-CF,RD 1/8W 22 OHM J	EA	1	
313	R310	RD-4P0T0113J	RES-CF,RD 1/4W 11K 5%	EA	1	
314	R311	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	
315	R312	RD-4P0T0471J	RES-CF,RD 1/4W 470 OHM J	EA	1	
316	R314	RD-4P0T0101J	RES-CF,RD 1/4W 100 OHM J	EA	1	
317	R315	RD-4P0T0101J	RES-CF,RD 1/4W 100 OHM J	EA	1	
318	R316	RD-4P0T0331J	RES-CF,RD 1/4W 330 OHM J	EA	1	
319	R317	RD-4P0T0331J	RES-CF,RD 1/4W 330 OHM J	EA	1	
320	R318	RD-4P0T0152J	RES-CF,RD 1/4W 1.5K OHM J	EA	1	
321	R319	RN-4P0T2002F	RES-MF,RN 1/4W 20KOHM F	EA	1	
322	R320	RD-4P0T0182J	RES-CF,RD 1/4W 1.8K OHM J	EA	1	
323	R321	RN-4P0T6800F	RES-MF,RN 1/4W 680 OHM F	EA	1	
324	R322	RN-4P0T2701F	RES-MF,RN 1/4W 2.7KOHM F	EA	1	
325	R324	RD-4P0T0103J	RES-CF,RD 1/4W 10K OHM J	EA	1	
326	R325	RD-4P0T0102J	RES-CF,RD 1/4W 1K OHM J	EA	1	
327	R326	RD-4P0T0332J	RES-CF,RD 1/4W 3.3K OHM J	EA	1	
328	R331	RD-4P0T0101J	RES-CF,RD 1/4W 100 OHM J	EA	1	
329	R332	RD-4P0T0101J	RES-CF,RD 1/4W 100 OHM J	EA	1	
330	R336	RD-4P0T0104J	RES-CF,RD 1/4W 100K OHM J	EA	1	
331	R337	2402200009	RES-CF,220 0.5W J M	EA	1	
332	R339	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	
333	R340	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	
334	R341	RD-4P0T0103J	RES-CF,RD 1/4W 10K OHM J	EA	1	
335	R342	RD-4P0T0272J	RES-CF,RD 1/4W 2.7K OHM J	EA	1	

NUM.	LOCATION	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
336	R343	RN-4P0T1803F	RES-MF,RN 1/4W 180KOHM F	EA	1	
337	R344	RD-4P0T0100J	RES-CF,RD 1/4W 10 OHM J	EA	1	
338	R345	2463909004	RES-MOF,39 2W J M	EA	1	
339	R346	RD-4P0T0220J	RES-CF,RD 1/4W 22 OHM J	EA	1	
340	R347	2401200006	RES-CF,120 0.5W J M	EA	1	
341	R348	2461508004	RES-MOF,1.5 1W J M	EA	1	
342	R349	2403909006	RES-CF,39 0.5W J M	EA	1	
343	R350	RD-4P0T0223J	RES-CF,RD 1/4W 22K OHM J	EA	1	
344	R351	RD-4P0T0223J	RES-CF,RD 1/4W 22K OHM J	EA	1	
345	R352	RD-4P0T0223J	RES-CF,RD 1/4W 22K OHM J	EA	1	
346	R353	RD-4P0T0223J	RES-CF,RD 1/4W 22K OHM J	EA	1	
347	R357	RN-4P0T2202F	RES-MF,RN 1/4W 22KOHM F	EA	1	⚠
348	R358	2460478004	RES-MOF,0.47 2W J M	EA	1	
349	R359	RD-4P0T0223J	RES-CF,RD 1/4W 22K OHM J	EA	1	
350	R360	RD-4P0T0330J	RES-CF,RD 1/4W 33 OHM J	EA	1	
351	R361	2461801005	RES-MOF,1.8K 1W J M	EA	1	
352	R362	2468209003	RES-MOF,82 1W J M	EA	1	
353	R363	2468209003	RES-MOF,82 1W J M	EA	1	
354	R364	2468209003	RES-MOF,82 1W J M	EA	1	
355	R365	2401201007	RES-CF,1.2K 0.5W J M	EA	1	
356	R368	RD-4P0T0244J	RES-CF,RD 1/4W 240K OHM J	EA	1	
357	R369	RD-4P0T0562J	RES-CF,RD 1/4W 5.6K OHM J	EA	1	
358	R370	RN-4P0T7501F	RES-MF,RN 1/4W 7.5KOHM F	EA	1	⚠
359	R371	RD-4P0T0274J	RES-CF,RD 1/4W 270K OHM J	EA	1	
360	R372	RD-4P0T0153J	RES-CF,RD 1/4W 15K OHM J	EA	1	
361	R373	RD-4P0T0513J	RES-CF,RD 1/4W 51K OHM J	EA	1	
362	R374	RD-4P0T0104J	RES-CF,RD 1/4W 100K OHM J	EA	1	
363	R376	RD-4P0T0302J	RES-CF,RD 1/4W 3K OHM J	EA	1	
364	R377	2461001004	RES-MOF,1K 2W J M	EA	1	
365	R378	2401601002	RES-CF,1.6K 0.5W J M	EA	1	
366	R379	2401801006	RES-CF,1.8K 0.5W J M	EA	1	
367	R380	2442601001	RES-MF,2.6K 0.25W F A	EA	1	⚠
368	R381	2401003008	RES-CF,100K 0.5W J M	EA	1	⚠
369	R382	2405100005	RES-CF,510 0.5W J M	EA	1	
370	R383	RD-4P0T0103J	RES-CF,RD 1/4W 10K OHM J	EA	1	
371	R384	RD-4P0T0473J	RES-CF,RD 1/4W 47K OHM J	EA	1	
372	R385	RD-4P0T0102J	RES-CF,RD 1/4W 1K OHM J	EA	1	
373	R386	RD-4P0T0102J	RES-CF,RD 1/4W 1K OHM J	EA	1	
374	R392	2448452001	RES-MF,84.5K 0.25W F A	EA	1	
375	R394	RD-4P0T0473J	RES-CF,RD 1/4W 47K OHM J	EA	1	
376	R395	RN-4P0T4701F	RES-MF,RN 1/4W 4.7K F	EA	1	
377	R501	2441502005	RES-MF,15K 0.5W F M	EA	1	
378	R502	2422205001	RES-CC,22M 0.5W K A	EA	1	
379	R503	RD-4P0T0822J	RES-CF,RD 1/4W 8.2K OHM J	EA	1	
380	R504	RD-4P0T0475J	RES-CF,RD 1/4W 4.7M OHM J	EA	1	
381	R505	2441432001	RES-MF,14.3K 0.25W F A	EA	1	
382	R506	RD-4P0T0103J	RES-CF,RD 1/4W 10K OHM J	EA	1	
383	R508	RD-4P0T0102J	RES-CF,RD 1/4W 1K OHM J	EA	1	

NUM.	LOCATION	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
384	R509	RD-4P0T0104J	RES-CF,RD 1/4W 100K OHM J	EA	1	
385	R510	RD-4P0T0242J	RES-CF,RD 1/4W 2.4K OHM J	EA	1	
386	R511	RD-4P0T0222J	RES-CF,RD 1/4W 2.2K OHM J	EA	1	
387	R512	RD-4P0T0103J	RES-CF,RD 1/4W 10K OHM J	EA	1	
388	R513	RD-4P0T0273J	RES-CF,RD 1/4W 27K OHM J	EA	1	
389	R514	RD2EP0T0754J	RES-CF,1/4W 750KOHM J	EA	1	
390	R515	RD-4P0T0102J	RES-CF,RD 1/4W 1K OHM J	EA	1	
391	R516	RD-4P0T0513J	RES-CF,RD 1/4W 51K OHM J	EA	1	
392	R517	RD-4P0T0563J	RES-CF,RD 1/4W 56K OHM J	EA	1	
393	R518	RD-4P0T0682J	RES-CF,RD 1/4W 6.8K OHM J	EA	1	
394	R519	RD-4P0T0101J	RES-CF,RD 1/4W 100 OHM J	EA	1	
395	R521	2462208008	RES-MOF,2.2 2W J M	EA	1	
396	R522	2462208008	RES-MOF,2.2 2W J M	EA	1	
397	R540	RD-4P0T0105J	RES-CF,RD 1/4W 1.0M OHM J	EA	1	
398	R541	2403303008	RES-CF,330K 0.5W J M	EA	1	
399	R542	2403303008	RES-CF,330K 0.5W J M	EA	1	
400	R543	RD-4P0T0224J	RES-CF,RD 1/4W 220K OHM J	EA	1	
401	R544	RD-4P0T0623J	RES-CF,RD 1/4W 62K OHM J	EA	1	
402	R545	RD-4P0T0102J	RES-CF,RD 1/4W 1K OHM J	EA	1	
403	R601	RD-4P0T04R7J	RES-CF,RD 1/4W 4.7 OHM J	EA	1	
404	R604	RD-4P0T0822J	RES-CF,RD 1/4W 8.2K OHM J	EA	1	
405	R607	RD-4P0T0331J	RES-CF,RD 1/4W 330 OHM J	EA	1	
406	R608	RD-4P0T0271J	RES-CF,RD 1/4W 270 OHM J	EA	1	
407	R609	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	
408	R611	RD-4P0T0203J	RES-CF,RD 1/4W 20K OHM J	EA	1	
409	R612	RD-4P0T0103J	RES-CF,RD 1/4W 10K OHM J	EA	1	
410	R613	RD-4P0T0122J	RES-CF,RD 1/4W 1.2K OHM J	EA	1	
411	R614	RD-8P0T0332J	RES-CF,RD 1/8W 3.3K OHM J	EA	1	
412	R615	RD-4P0T0752J	RES-CF,RD 1/4W 7.5K OHM J	EA	1	
413	R616	RD-4P0T0153J	RES-CF,RD 1/4W 15K OHM J	EA	1	
414	R617	RD-8P0T0103J	RES-CF,RD 1/8W 10KOHM J	EA	1	
415	R619	RN-4P0T1742F	RES-MF,RN 1/4W 17.4KOHM F	EA	1	
416	R624	RD-4P0T0102J	RES-CF,RD 1/4W 1K OHM J	EA	1	
417	R625	RD-8P0T0223J	RES-CF,RD 1/8W 22K OHM J	EA	1	
418	R626	RD-8P0T0472J	RES-CF,RD 1/8W 4.7K OHM J	EA	1	
419	R627	RD-8P0T0103J	RES-CF,RD 1/8W 10KOHM J	EA	1	
420	R633	RD-4P0T0393J	RES-CF,RD 1/4W 39K OHM J	EA	1	
421	R634	RD-4P0T0393J	RES-CF,RD 1/4W 39K OHM J	EA	1	
422	R635	RD-4P0T0154J	RES-CF,RD 1/4W 150K OHM J	EA	1	
423	R636	RD-4P0T0393J	RES-CF,RD 1/4W 39K OHM J	EA	1	
424	R637	RD-4P0T0123J	RES-CF,RD 1/4W 12K OHM J	EA	1	
425	R638	RD-4P0T0822J	RES-CF,RD 1/4W 8.2K OHM J	EA	1	
426	R639	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	
427	R640	RD-8P0T0105J	RES-CF,RD 1/8W 1M OHM J	EA	1	
428	R648	RD-4P0T0223J	RES-CF,RD 1/4W 22K OHM J	EA	1	
429	R649	RD-4P0T0223J	RES-CF,RD 1/4W 22K OHM J	EA	1	
430	R650	RD-4P0T0223J	RES-CF,RD 1/4W 22K OHM J	EA	1	
431	R652	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	

NUM.	LOCATION	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
432	R653	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	
433	R659	RD-4P0T0101J	RES-CF,RD 1/4W 100 OHM J	EA	1	
434	R661	RD-4P0T0331J	RES-CF,RD 1/4W 330 OHM J	EA	1	
435	R662	RD-4P0T0331J	RES-CF,RD 1/4W 330 OHM J	EA	1	
436	R663	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	
437	R664	RD-8P0T0103J	RES-CF,RD 1/8W 10KOHM J	EA	1	
438	R665	RD-8P0T0103J	RES-CF,RD 1/8W 10KOHM J	EA	1	
439	R666	RD-4P0T0102J	RES-CF,RD 1/4W 1K OHM J	EA	1	
440	RF120	RF-4P0T0220J	RES-FUSE,1/4W 22 OHM J	EA	1	
441	RF336	RF2EP0T04R7J	FRS 1/4W 4.7 , J TR	EA	1	
442	RL101	3710100067	RELAY,DY323D12S 250V 5A 6	EA	1	
443	RL301	3710100049	RELAY,JS1-12V 5P 10A	EA	1	
444	RP101	341130000901	POSISTOR,9OHM 2P CASE STI	EA	1	
445	RT101	E4207708409A	THERMISTOR 18OHM 13PAI TA	EA	1	
446	SW301	E42027014010	LEVER SWITCH,30'C 3P	EA	1	
447	SW601	E42027039010	SWITCH TACT,5MM 160GF VER	EA	1	
448	SW602	E42027039010	SWITCH TACT,5MM 160GF VER	EA	1	
449	SW603	E42027039010	SWITCH TACT,5MM 160GF VER	EA	1	
450	SW604	E42027039010	SWITCH TACT,5MM 160GF VER	EA	1	
451	SW605	E42027039010	SWITCH TACT,5MM 160GF VER	EA	1	
452	T101	3510200111	TRAN-PW,S770A EER4042 300	EA	1	
453	T101	6130014100	EYELET,2.7PAI BRASS T=0.4	EA	2	
454	T301	351030009001	TRAN-SW,HDT EI1916 880UH	EA	1	
455	T501	6120037401	SHLD-CASE,F/S FBT ASY S770	EA	1	⚠
456	T501	6130014100	EYELET,2.7PAI BRASS T=0.4	EA	3	⚠
457	T501	351050006301	FBT,S770	EA	1	⚠
458	T502	3510300138	TRAN-SW,EI2519 230UH FOCUS	EA	1	
459	U101	UUC3842N	IC,CURRENT PWM CTRL 8P DI	EA	1	
460	U102	UKIA7808PI	IC,VOLT REGU.KIA7808PI	EA	1	
461	U104	ULM7805CT	IC,VOL REGULATOR,LM7805CT	EA	1	
462	U201	3200000763	IC-LIN,TDA4866 SIP	EA	1	
463	U201	6124030303	H-SINK POWER,L=45 7770C	EA	1	
464	U201	6130014100	EYELET,2.7PAI BRASS T=0.4	EA	2	
465	U201	M11183010012	SCREW,M/WAS(+) 3*10,MSZPC	EA	2	
466	U301	3200000762	IC-LIN,TDA4854 DIP	EA	1	
467	U302	ULM358N	IC,OP-AMP LM358N	EA	1	
468	U601	3205001293	IC-U,LSC508446B DIP S770	EA	1	
469	U602	3203000753	IC-MEMO,24LC08B/P DIP	EA	1	
470	U603	UKIA7045P	IC, KIA7045P	EA	1	
471	U604	U24LC21P	IC,EEPROM 24LC21P	EA	1	
472	VR101	RN-8P0T2001F	RES-MF,RN 1/8W 2K OHM F	EA	1	
473	VR301	RN-8P0T4301F	RES-MF,RN 1/8W 4.3KOHM F	EA	1	
474	VR501	E42015047160	V-SEMI,VERT 0.2W B500K TA	EA	1	
475	W301	372010105301	CONN-M,POST 1P DEGT235 14	EA	4	
476	X601	3530200523	VIB-QUARTZ,GWC-060(18) 6M	EA	1	

CRT Board

NUM.	LOCATION	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
1	B401	3540200058	BD-FER,BFS3550	EA	1	
2	B402	3540200058	BD-FER,BFS3550	EA	1	
3	B403	3540200059	BD-FER,BFS3580	EA	1	
4	B404	3540200058	BD-FER,BFS3550	EA	1	
5	B406	3540200058	BD-FER,BFS3550	EA	1	
6	B412	3540200059	BD-FER,BFS3580	EA	1	
7	C401	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
8	C402	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
9	C403	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
10	C404	CE04BT1C331M	CAP-EL,SMS 16V 330UF M	EA	1	
11	C405	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
12	C406	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
13	C407	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
14	C408	CE04BT1HR33M	CAP-EL,SMS 50V 0.33UF M	EA	1	
15	C409	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
16	C410	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
17	C411	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
18	C412	CE04BT1C470M	CAP-EL,SMS 16V 47UF M	EA	1	
19	C413	CE04BT1C470M	CAP-EL,SMS 16V 47UF M	EA	1	
20	C414	CE04BT1C101M	CAP-EL,SMS 16V 100UF M	EA	1	
21	C415	CE04BT1H010M	CAP-EL,SMS 50V 1UF M	EA	1	
22	C416	CE04BT1H010M	CAP-EL,SMS 50V 1UF M	EA	1	
23	C417	CE04BT1H010M	CAP-EL,SMS 50V 1UF M	EA	1	
24	C419	CE04BT1E101M	CAP-EL,SMS 25V 100UF M	EA	1	
25	C420	CQ92BT2A562J	CAP-PE,100V 0.0056UF J	EA	1	
26	C422	CE04BT1C101M	CAP-EL,SMS 16V 100UF M	EA	1	
27	C423	CG45FT1H104Z	CAP-CD,50V 0.1UF Z	EA	1	
28	C424	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
29	C425	CQ92BT2A103J	CAP-PE,100V 0.01UF J	EA	1	
30	C427	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
31	C428	CE04BT1C101M	CAP-EL,SMS 16V 100UF M	EA	1	
32	C430	2133300004	CAP-MULT,33PF 50V J AXI	EA	1	
33	C431	2133300004	CAP-MULT,33PF 50V J AXI	EA	1	
34	C432	CG45FT1H104Z	CAP-CD,50V 0.1UF Z	EA	1	
35	C433	CE04BT2A100M	CAP-EL,SMS 100V 10UF M	EA	1	
36	C434	CQ92BT2A104J	CAP-PE,100V 0.1UF J	EA	1	
37	C435	CF93BT2A224J	CAP-MPE,100V 0.22UF J	EA	1	
38	C436	2001000065	CAP-AL,10UF 100V M 5*11 P	EA	1	
39	C437	2001090053	CAP-AL,1UF 100V M 5*11 NP	EA	1	
40	C438	2001090053	CAP-AL,1UF 100V M 5*11 NP	EA	1	
41	C439	2001090053	CAP-AL,1UF 100V M 5*11 NP	EA	1	
42	C441	CC45CT1H220J	CAP-CD,50V 22PF J	EA	1	
43	C442	CC45CT1H220J	CAP-CD,50V 22PF J	EA	1	
44	C450	CQ92BT2A104J	CAP-PE,100V 0.1UF J	EA	1	
45	C451	CQ92BT2A104J	CAP-PE,100V 0.1UF J	EA	1	
46	C452	CQ92BT2A104J	CAP-PE,100V 0.1UF J	EA	1	

NUM.	LOCATION	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
47	C453	CE04BT2C4R7M	CAP-EL,SMS 160V 4.7UF M	EA	1	
48	C454	2141040020	CAP-M-P,0.1UF 250V J RAD	EA	1	
49	C455	CE04BT2A220M	CAP-EL,SMS 100V 22UF M	EA	1	
50	C456	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
51	C457	CE04BT1E101M	CAP-EL,SMS 25V 100UF M	EA	1	
52	C458	CE04BT2C4R7M	CAP-EL,SMS 160V 4.7UF M	EA	1	
53	C463	CK45BF2H103K	CAP-CD,500V 0.01UF K	EA	1	
54	C464	2131040020	CAP-MULT,0.1UF 50V Z AXI	EA	1	
55	C469	2101030035	CAP-CER,0.01UF 1KV K Y5P	EA	1	
56	D402	DT1N4148	DIODE,1N4148 TAPING	EA	1	
57	D403	DT1N4148	DIODE,1N4148 TAPING	EA	1	
58	D404	DT1N4148	DIODE,1N4148 TAPING	EA	1	
59	D410	DT1N4004	DIODE,400V 1.0A TAP	EA	1	
60	D411	DTISS81	DIODE,SWITCHING ISS81	EA	1	
61	D412	DTISS81	DIODE,SWITCHING ISS81	EA	1	
62	D413	DTISS81	DIODE,SWITCHING ISS81	EA	1	
63	D414	DTISS81	DIODE,SWITCHING ISS81	EA	1	
64	D415	DTISS81	DIODE,SWITCHING ISS81	EA	1	
65	D416	DTISS81	DIODE,SWITCHING ISS81	EA	1	
66	D417	DT1N4148	DIODE,1N4148 TAPING	EA	1	
67	D418	DT1N4148	DIODE,1N4148 TAPING	EA	1	
68	D419	DT1N4148	DIODE,1N4148 TAPING	EA	1	
69	D420	DT1N4148	DIODE,1N4148 TAPING	EA	1	
70	D421	DTISS81	DIODE,SWITCHING ISS81	EA	1	
71	D422	DTISS81	DIODE,SWITCHING ISS81	EA	1	
72	D423	DTISS81	DIODE,SWITCHING ISS81	EA	1	
73	D424	DTUZ-6.8BSB	DIODE,ZENER UZ-6.8BSB TAP	EA	1	
74	D425	DT1N4148	DIODE,1N4148 TAPING	EA	1	
75	D426	DT1N4148	DIODE,1N4148 TAPING	EA	1	
76	FL401	E42029026410	FILTER,EMI 50V 0.1UF M	EA	1	
77	FL402	E42029026410	FILTER,EMI 50V 0.1UF M	EA	1	
78	FL403	E42029026410	FILTER,EMI 50V 0.1UF M	EA	1	
79	FL404	E42029012020	NOISE FILTER,TH28123MA	EA	1	
80	FL405	E42029012020	NOISE FILTER,TH28123MA	EA	1	
81	FL410	3520200097	FLT-LC,DNF330TA	EA	1	
82	FL411	3520200097	FLT-LC,DNF330TA	EA	1	
83	FL412	3520200097	FLT-LC,DNF330TA	EA	1	
84	G401	E42039003010	SPARK,GAP DSP-201M 200V	EA	1	
85	G402	E42039003010	SPARK,GAP DSP-201M 200V	EA	1	
86	G403	E42039003010	SPARK,GAP DSP-201M 200V	EA	1	
87	G404	E42039003020	SURGE,PROTECTOR 300V 30%	EA	1	
88	G405	3411100043	VARISTOR,S23 1500V 1500V	EA	1	
89	L401	E42019058370	COIL,PEAKING 220 UH AXIAL	EA	1	
90	L421	3500100637	INDUCT-FIX,AL03TBR22M M A	EA	1	
91	L422	3500100637	INDUCT-FIX,AL03TBR22M M A	EA	1	
92	L423	3500100637	INDUCT-FIX,AL03TBR22M M A	EA	1	
93	P401	3725004246	CONN-A,13P FLAT 130 S770	EA	1	

NUM.	LOCATION	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
94	P402	3725004247	CONN-A,8P FLAT 240MM S770	EA	1	
95	P403	3720101388	CONN-M,SMW200-06P	EA	1	
96	P405	372110057702	CONN-F,ISDS04S-P DBL FOCU	EA	1	
97	Q403	TTKTC1815Y	TR,KTC3198Y	EA	1	
98	Q431	TTKSP45	TR,KSP45	EA	1	
99	Q432	TTKTA1268BL	TR,LOW NOISE KTA1268BL	EA	1	
100	Q433	TTKSP45	TR,KSP45	EA	1	
101	Q434	TTKTA1268BL	TR,LOW NOISE KTA1268BL	EA	1	
102	Q435	TTKSP45	TR,KSP45	EA	1	
103	Q436	TTKTA1268BL	TR,LOW NOISE KTA1268BL	EA	1	
104	R401	RD-8P0T0750J	RES-CF,RD 1/8W 75 OHM J	EA	1	
105	R402	RD-8P0T0750J	RES-CF,RD 1/8W 75 OHM J	EA	1	
106	R403	RD-8P0T0750J	RES-CF,RD 1/8W 75 OHM J	EA	1	
107	R404	RD-8P0T0103J	RES-CF,RD 1/8W 10KOHM J	EA	1	
108	R405	RD-8P0T0472J	RES-CF,RD 1/8W 4.7K OHM J	EA	1	
109	R406	RD-8P0T0102J	RES-CF,RD 1/8W 1K OHM J	EA	1	
110	R409	RD-8P0T0473J	RES-CF,RD 1/8W 47K OHM J	EA	1	
111	R410	RN-8P0T3302F	RES-MF,RN 1/8W 33KOHM F	EA	1	
112	R411	RD-8P0T0331J	RES-CF,RD 1/8W 330 OHM J	EA	1	
113	R412	RD-8P0T0331J	RES-CF,RD 1/8W 330 OHM J	EA	1	
114	R413	RD-4P0T0271J	RES-CF,RD 1/4W 270 OHM J	EA	1	
115	R414	RD-4P0T0220J	RES-CF,RD 1/4W 22 OHM J	EA	1	
116	R415	RD-4P0T0271J	RES-CF,RD 1/4W 270 OHM J	EA	1	
117	R416	RD-4P0T0220J	RES-CF,RD 1/4W 22 OHM J	EA	1	
118	R417	RD-4P0T0221J	RES-CF,RD 1/4W 220 OHM J	EA	1	
119	R418	RD-4P0T0220J	RES-CF,RD 1/4W 22 OHM J	EA	1	
120	R419	RD-8P0T0101J	RES-CF,RD 1/8W 100 OHM J	EA	1	
121	R420	RD-8P0T0202J	RES-CF,RD 1/8W 2K OHM J	EA	1	
122	R423	RD-8P0T0103J	RES-CF,RD 1/8W 10KOHM J	EA	1	
123	R425	RD-8P0T0102J	RES-CF,RD 1/8W 1K OHM J	EA	1	
124	R426	RD-8P0T0105J	RES-CF,RD 1/8W 1M OHM J	EA	1	
125	R427	RD-8P0T0152J	RES-CF,RD 1/8W 1.5K OHM J	EA	1	
126	R428	RD-8P0T0182J	RES-CF,RD 1/8W 1.8K OHM J	EA	1	
127	R429	RD-8P0T0562J	RES-CF,RD 1/8W 5.6K OHM J	EA	1	
128	R431	RD-4P0T0101J	RES-CF,RD 1/4W 100 OHM J	EA	1	
129	R432	RD-4P0T0101J	RES-CF,RD 1/4W 100 OHM J	EA	1	
130	R433	RD-4P0T0101J	RES-CF,RD 1/4W 100 OHM J	EA	1	
131	R434	RD-8P0T0331J	RES-CF,RD 1/8W 330 OHM J	EA	1	
132	R435	RD-8P0T0562J	RES-CF,RD 1/8W 5.6K OHM J	EA	1	
133	R436	RD-8P0T0331J	RES-CF,RD 1/8W 330 OHM J	EA	1	
134	R437	RD-8P0T0331J	RES-CF,RD 1/8W 330 OHM J	EA	1	
135	R461	RD-8P0T0824J	RES-CF,RD 1/8W 820K OHM J	EA	1	
136	R462	RD-4P0T0103J	RES-CF,RD 1/4W 10K OHM J	EA	1	
137	R463	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	
138	R464	RD-4P0T0244J	RES-CF,RD 1/4W 240K OHM J	EA	1	
139	R465	RD-4P0T0154J	RES-CF,RD 1/4W 150K OHM J	EA	1	
140	R466	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	

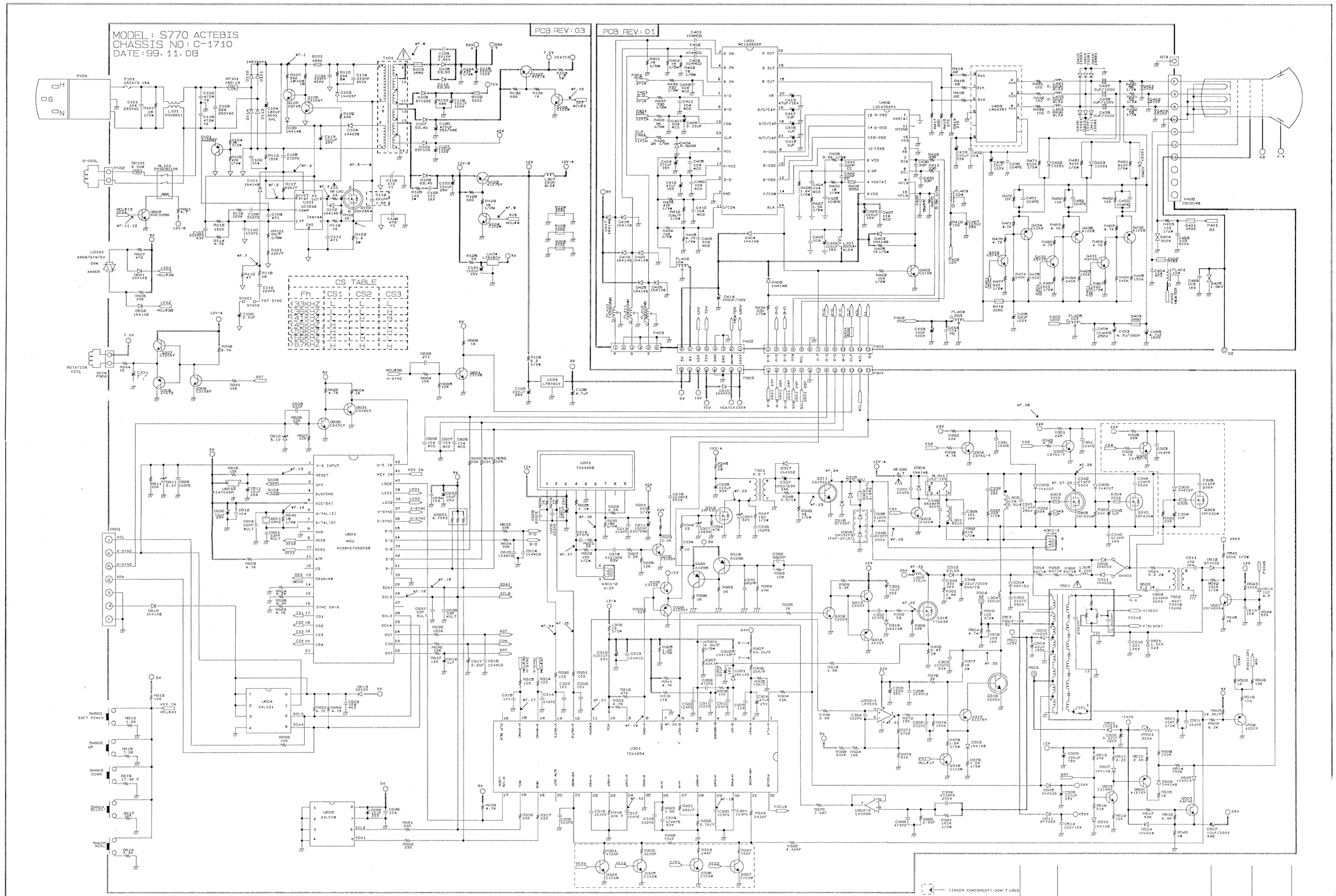
NUM.	LOCATION	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
141	R467	RD-8P0T0821J	RES-CF,RD 1/8W 820 OHM J	EA	1	
142	R471	RD-8P0T0824J	RES-CF,RD 1/8W 820K OHM J	EA	1	
143	R472	RD-4P0T0103J	RES-CF,RD 1/4W 10K OHM J	EA	1	
144	R473	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	
145	R474	RD-4P0T0244J	RES-CF,RD 1/4W 240K OHM J	EA	1	
146	R475	RD-4P0T0154J	RES-CF,RD 1/4W 150K OHM J	EA	1	
147	R476	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	
148	R477	RD-8P0T0821J	RES-CF,RD 1/8W 820 OHM J	EA	1	
149	R481	RD-8P0T0824J	RES-CF,RD 1/8W 820K OHM J	EA	1	
150	R482	RD-4P0T0103J	RES-CF,RD 1/4W 10K OHM J	EA	1	
151	R483	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	
152	R484	RD-4P0T0244J	RES-CF,RD 1/4W 240K OHM J	EA	1	
153	R485	RD-4P0T0154J	RES-CF,RD 1/4W 150K OHM J	EA	1	
154	R486	RD-4P0T0472J	RES-CF,RD 1/4W 4.7K OHM J	EA	1	
155	R487	RD-8P0T0821J	RES-CF,RD 1/8W 820 OHM J	EA	1	
156	R490	2405609006	RES-CF,56 0.5W J M	EA	1	
157	R491	2405609006	RES-CF,56 0.5W J M	EA	1	
158	R492	2405609006	RES-CF,56 0.5W J M	EA	1	
159	R493	2401000008	RES-CF,100 0.5W J M	EA	1	
160	U401	3200000767	IC-LIN,MC13282EP DIP	EA	1	
161	U402	3204000460	IC-INT,LSC4388P2/MC141545	EA	1	
162	U403	3200001257	IC-LIN,LM2435T TO2	EA	1	
163	U403	M11143008012	SCREW,BIN(+) M3*8 MSZPC	EA	1	
164		6124030200	H-SINK VIDEO,HT-7770C	EA	1	
165		6124030900	H-SINK VIDEO ASSY,T7770C	ST	1	
166	GT4	372010105301	CONN-M,POST 1P DEGT235 14	EA	1	
167		304010083302	PCB-SINGLE,S770B/HMO CRT	EA	1	
168		6120028201	SHLD-CASE,FENCE CRT T=0.3	EA	1	
169		6120028300	SHLD-CASE,FENCE CRT COVER	EA	1	

Miscellaneous

NUM.	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
1	B4209501301C	BAG PE,MANUAL TO.03	EA	1	
2	B4209501203A	BAG PE,SET(RECYCLE MARK'G	EA	1	
3	6110129800	BKT PCB,HT-5870B	EA	1	
4	6110187100	BKT REAR,S770	EA	1	
5	6301171107	BOX CTN,DW-2 S770 ACT/TAR	EA	1	
6	B4008500100A	CABLE TIE	EA	3	
7	B4008500100A	CABLE TIE	EA	3	
8	3758000167	CBL-PWR,WALL F.WHITE EURO	EA	1	
9	375850040802	CBL-SGN,6P+7P 1.5M FW ATT	EA	1	
10	610115550001	CHASSIS MAIN ASSY,HT-7770	ST	1	
11	610113400001	CHASSIS MAIN,HT-7870C	EA	1	
12	6120022900	CONTACT-PL,SOLDER GRIP	EA	4	
13	6120037300	CONTACT-PL,SOLDER GRIP B7	EA	4	
14	6201259162	COVER F.ASSY,S770B ACT	ST	1	
15	6201251050	COVER FRONT,S770B	EA	1	
16	6201240250	COVER REAR,S770 HEI	EA	1	
17	6201211900	COVER SCREW,HT-7870C	EA	4	
18	612003030001	CRT SPRING,S770	EA	2	
19	3010100121	CRT,M41LFQ803X20(LA) S770	EA	1	⚠
20	6253086300	CUSHION BOTTOM,S770B	EA	1	
21	6253086200	CUSHION TOP,S770B(C-TYPE)	EA	1	
22	6130014100	EYELET,2.7PAI BRASS T=0.4	EA	4	
23	6130014100	EYELET,2.7PAI BRASS T=0.4	EA	4	
24	6120033300	FENCE SHIELD FBT,S770	EA	1	
25	6210095400	GUIDE POWER,S770B	EA	1	
26	3500101333	INDUCT-FIX,D-COIL,0.35/82	EA	1	
27	B4210319162	KIT COVER,S770B ACT	ST	1	
28	B4204662651	KIT LABEL,S770(99) ACT	ST	1	
29	6215217600	KNOB CONTROL,S770B	EA	1	
30	6215217500	KNOB POWER,S770B(C-TYPE)	EA	1	
31	631633340601	LABEL BACK,TCO'99 ACT	EA	1	
32	6316300401	LABEL BARCODE,ACT/OPT/ITV	EA	1	
33	B4204505100C	LABEL,X-RAY WARNING	EA	1	
34	6220069100	LENS LED,HT-7770C	EA	1	
35	3540400027	MAG-FER,RING23.5PAI NI-ZN	EA	1	
36	B4210319201	PACKING ASSY,S770B	ST	1	
37	6253063403	PAD SPONGE(T=45),T7770C3	EA	1	
38	304010083203	PCB-SINGLE,S770B ACT	EA	1	
39	B4218500201C	RETAINER COIL	EA	4	
40	B4218501101A	RING INSULATOR	EA	1	
41	M17744006012	SCREW,BIN(+) M4*6 MSZPC	EA	1	
42	5004000187	SCR-TT2,BIN(+) MC 4*14	EA	1	
43	5004000187	SCR-TT2,BIN(+) MC 4*14	EA	7	
44	6129026900	SPECIAL,SCREW ST2(+)5*20	EA	4	
45	6129027600	SPECIAL,T.T/W(+) 3*8 MSZP	EA	5	
46	B4214000301A	SPRING COMPRESSION	EA	1	

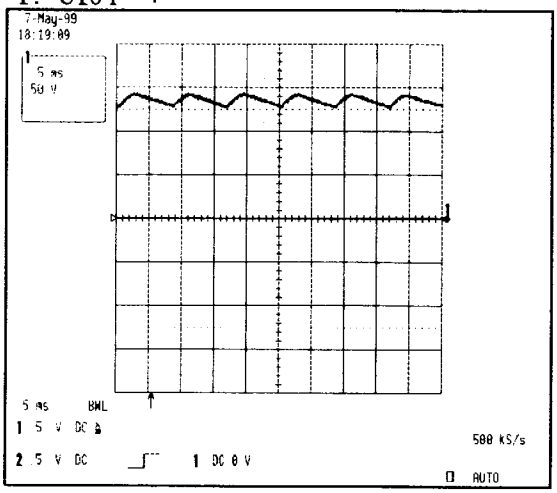
NUM.	PART NUMBER	DESCRIPTION	UNIT	Q'TY	REMARK
47	6316345100	STICKER BOX,TCO '99	EA	2	
48	6316345101	STICKER CABINET,TCO '99	EA	1	
49	6223075000	SUPPORT FENCE SHIELD	EA	1	
50	6223047200	SUPPORT,SCREW HL-7864F	EA	1	
51	6201211600	SWIVEL BASE,HT-7770C	EA	1	
52	6201211700	SWIVEL UPPER,HT-7770C	EA	1	
53	6201218400	SWIVEL&TILT ASSY,HT-7870C	ST	1	
54	6201211800	SWIVEL,PAD HT-7770C	EA	1	
55	632021210201	USER-GUIDE,S770 ACT	EA	1	
56	375500078905	WIRE-ASS'Y,COPPER S770B	EA	1	
57	375500079303	WIRE-ASS'Y,CRT GND S770B	EA	1	
58	375500066401	WIRE-ASS'Y,TERMINAL 120MM	EA	2	

Schematic Diagram

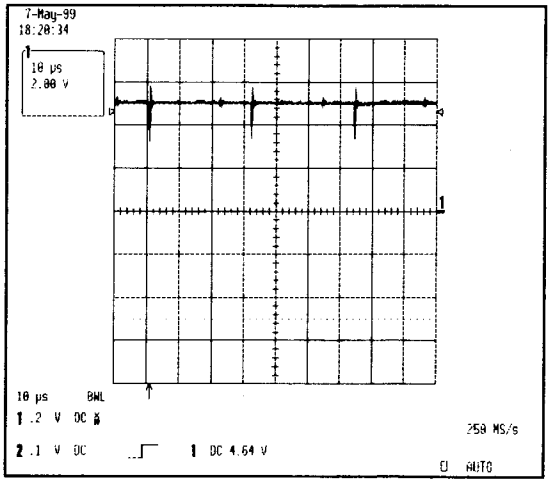


Wave Form

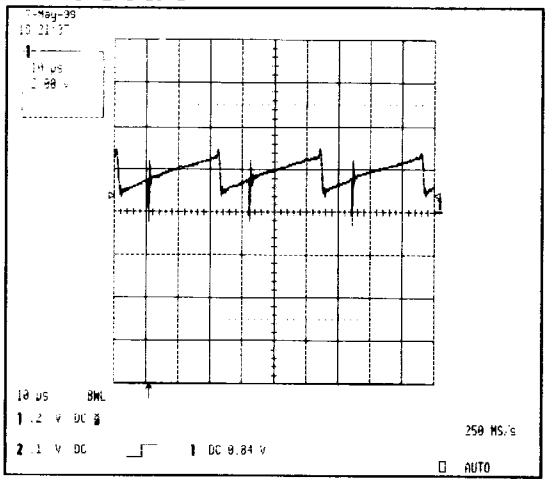
1. C104 "+"



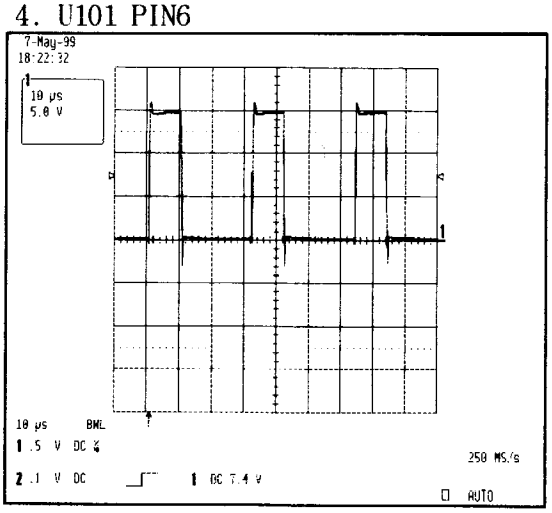
2. U101 PIN8



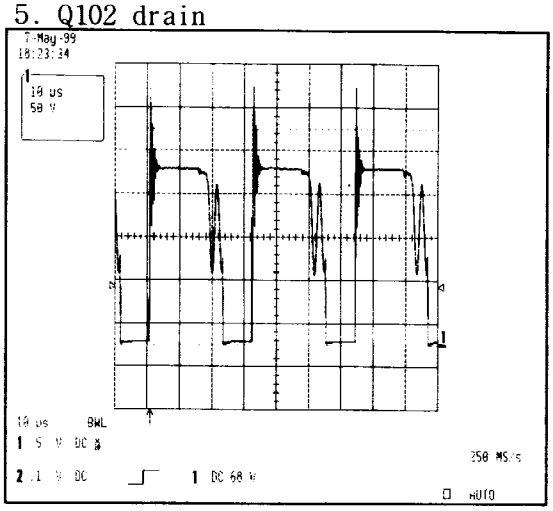
3. U101 PIN4



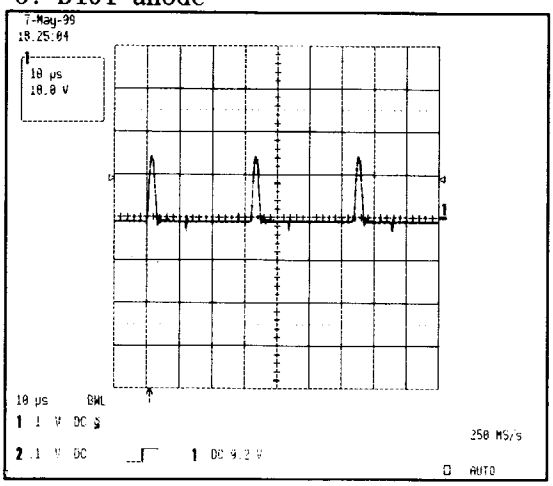
4. U101 PIN6



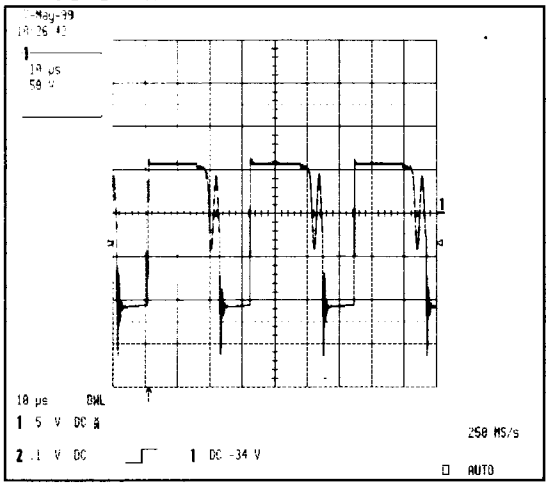
5. Q102 drain



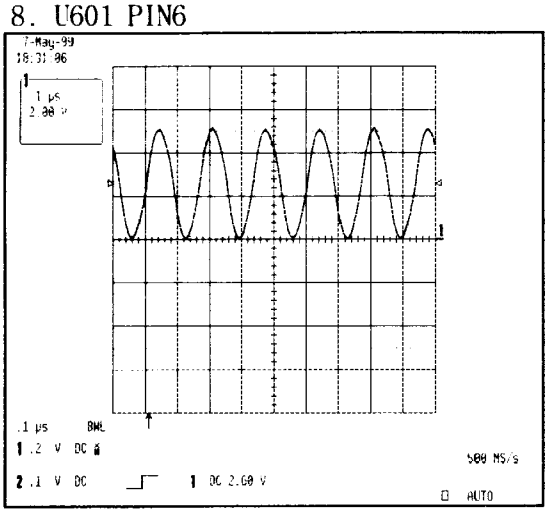
6. D101 anode



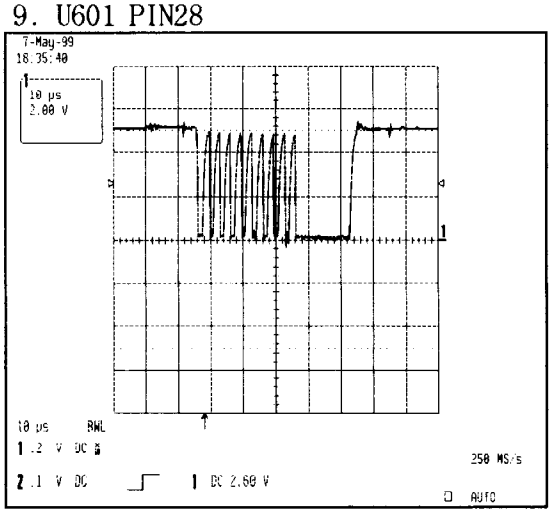
7. T101 PIN9



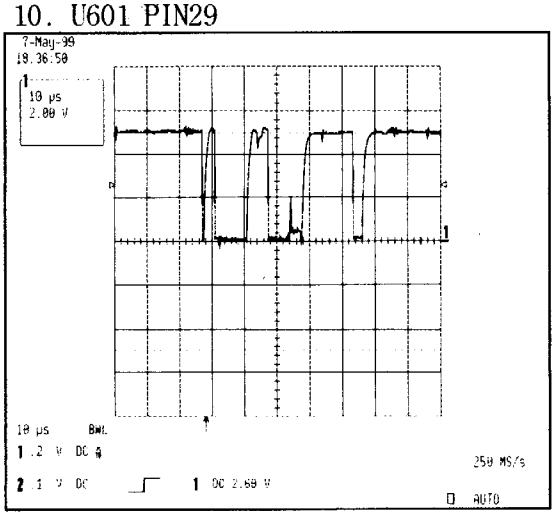
8. U601 PIN6



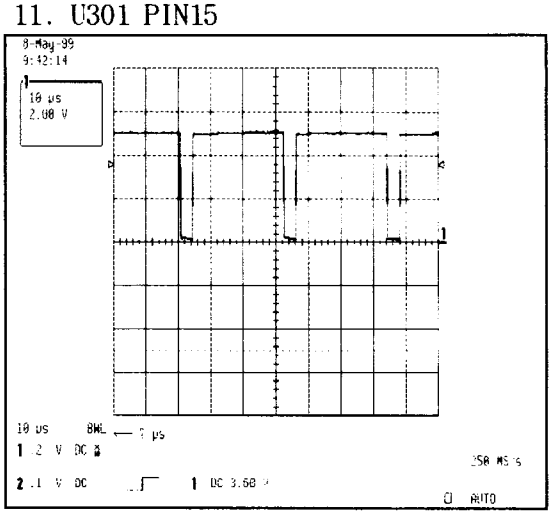
9. U601 PIN28



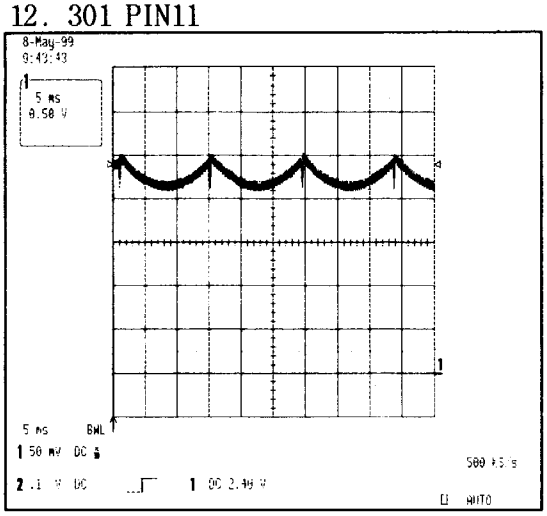
10. U601 PIN29



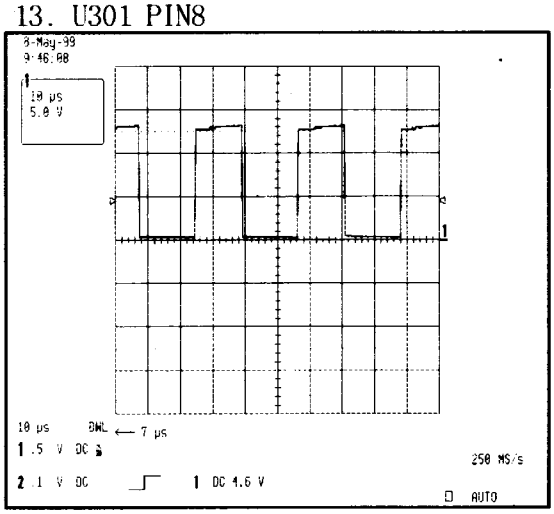
11. U301 PIN15



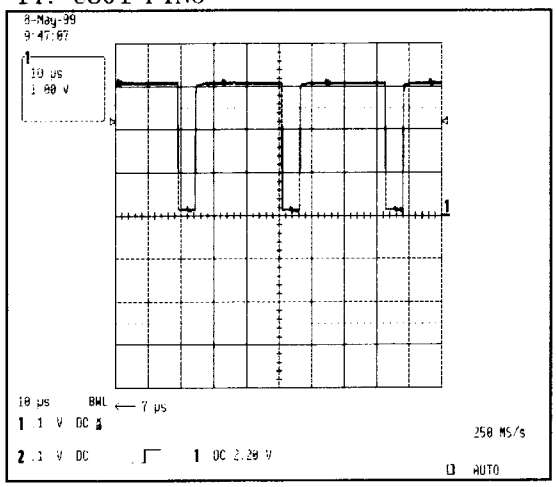
12. 301 PIN11



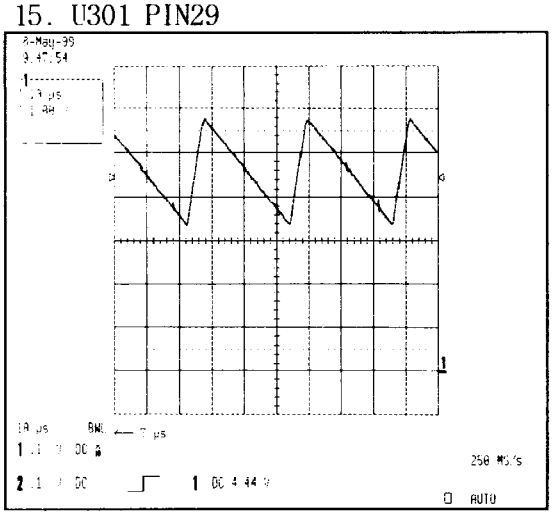
13. U301 PIN8



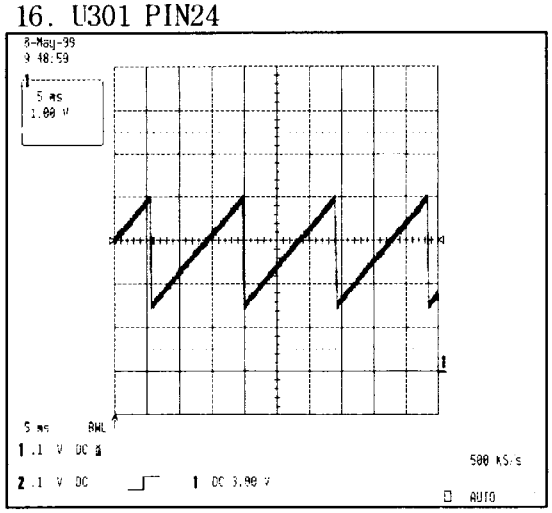
14. U301 PIN6



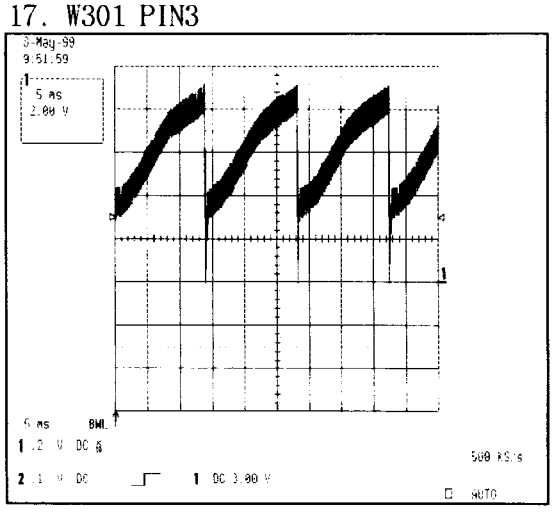
15. U301 PIN29



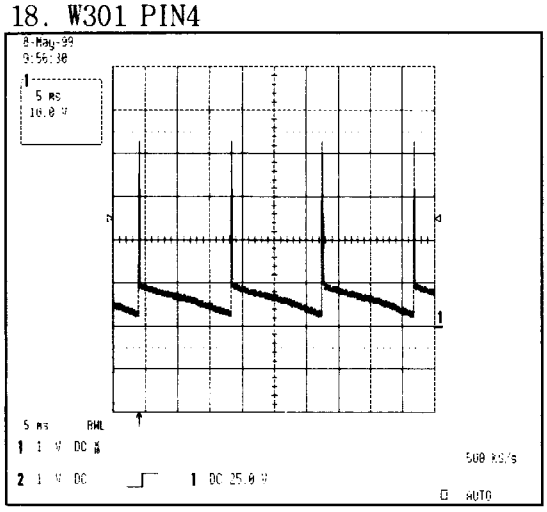
16. U301 PIN24



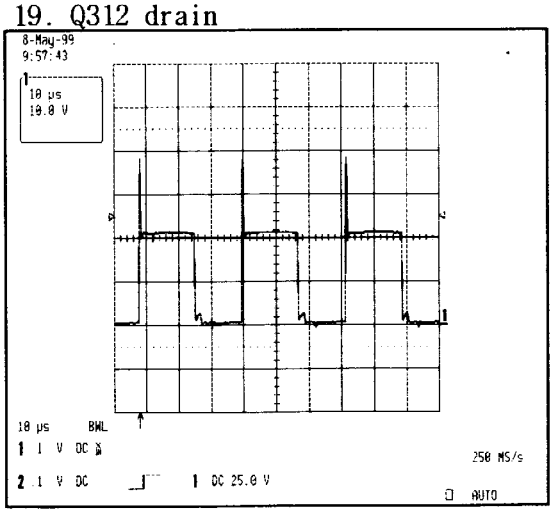
17. W301 PIN3



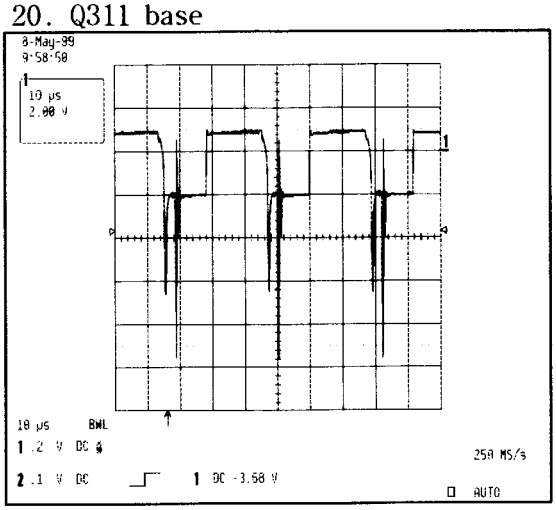
18. W301 PIN4



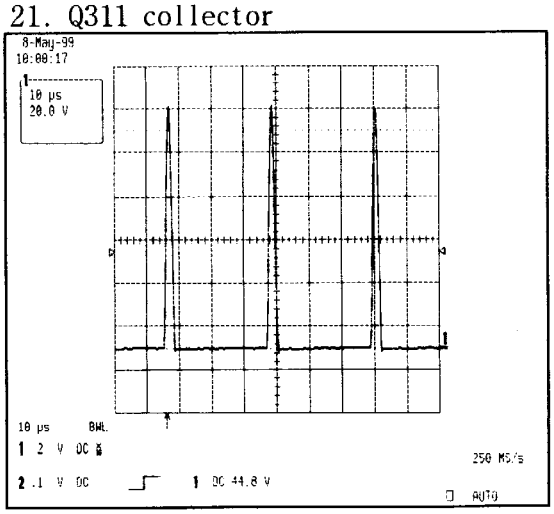
19. Q312 drain



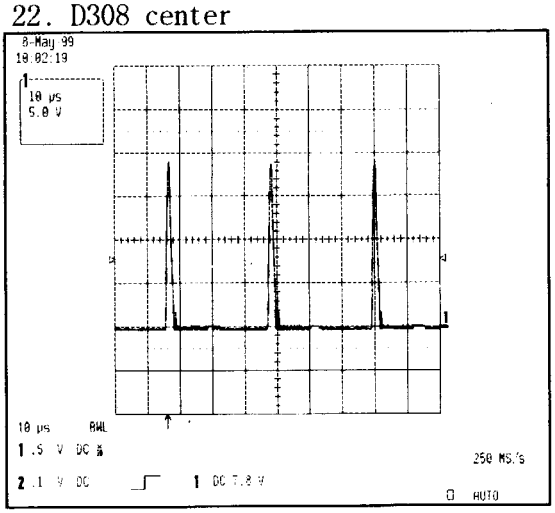
20. Q311 base



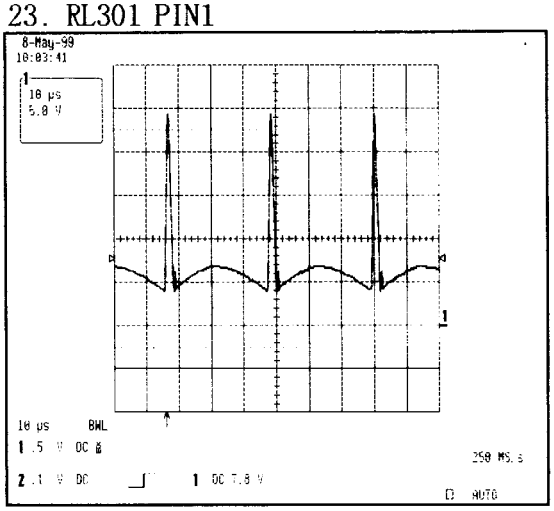
21. Q311 collector



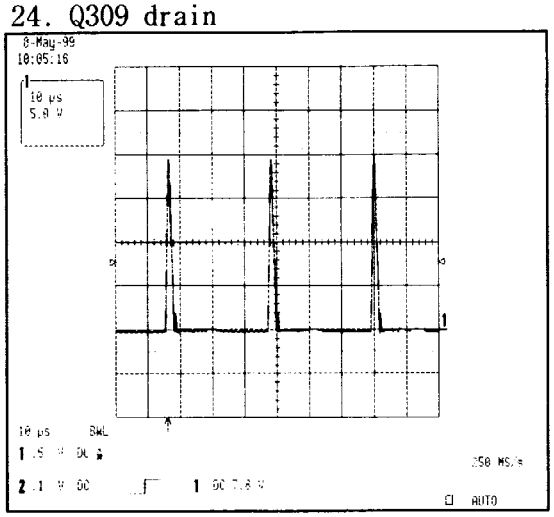
22. D308 center



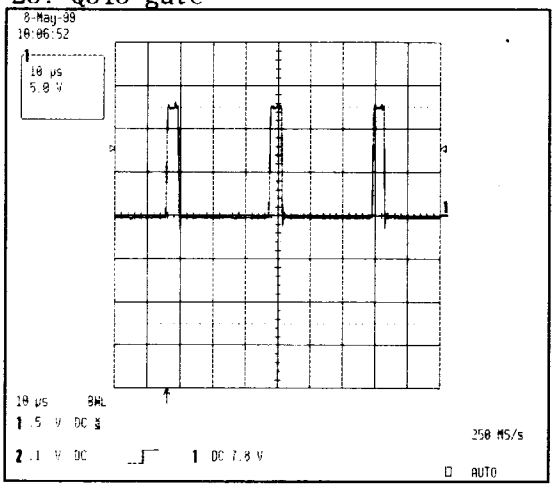
23. RL301 PIN1



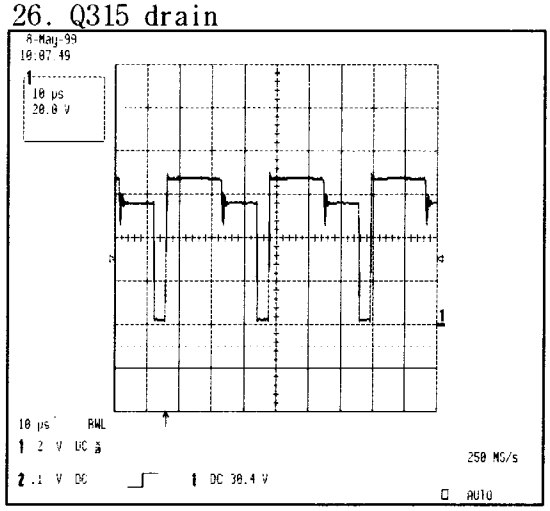
24. Q309 drain



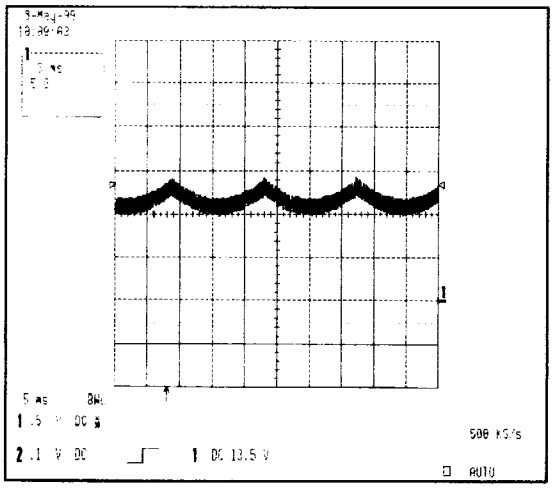
25. Q315 gate



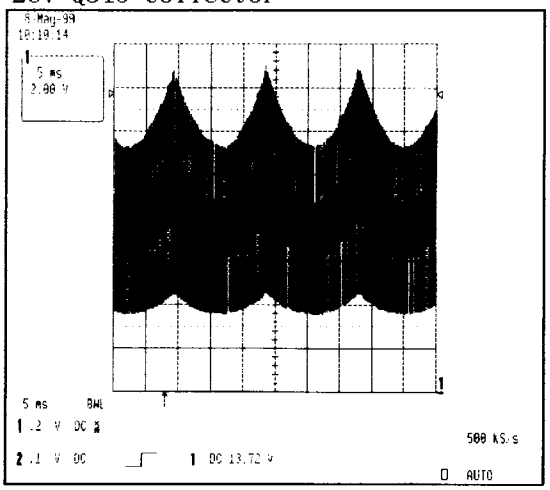
26. Q315 drain



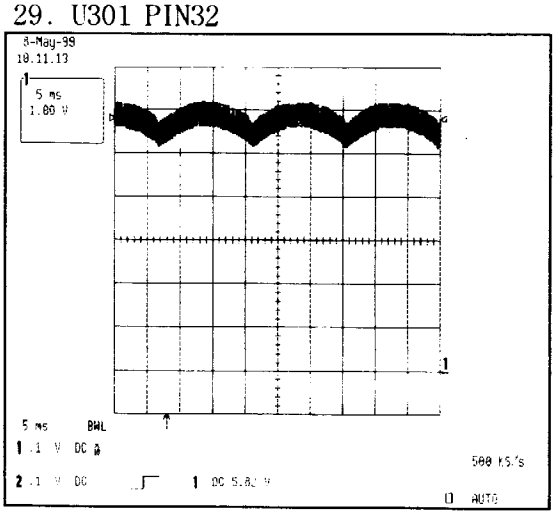
27. U302 PIN1



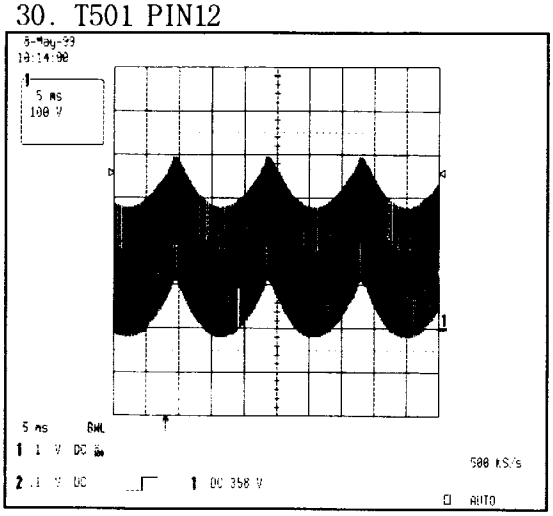
28. Q316 collector



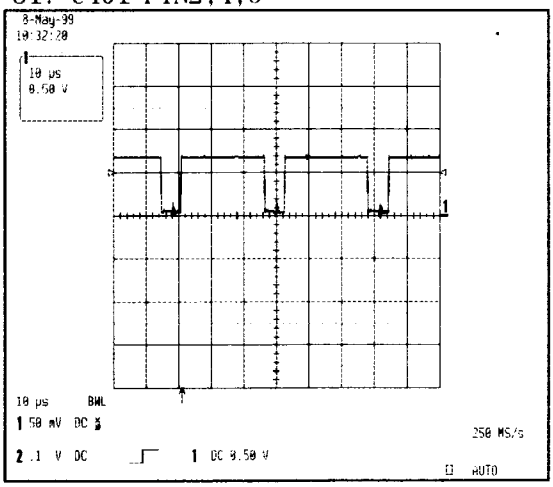
29. U301 PIN32



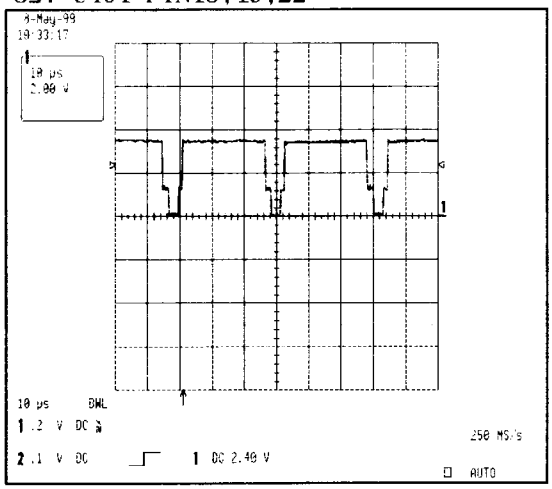
30. T501 PIN12



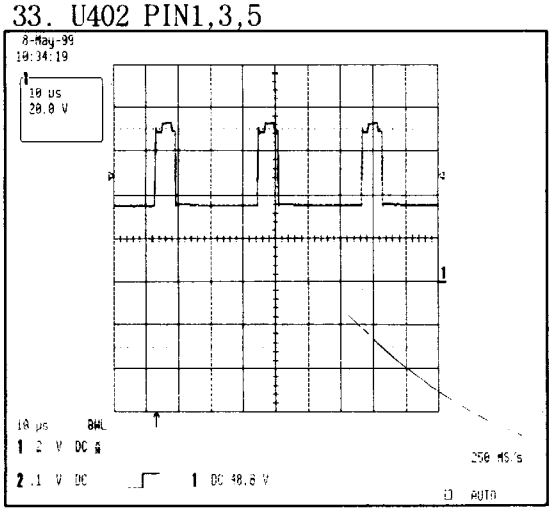
31. U401 PIN2,4,6



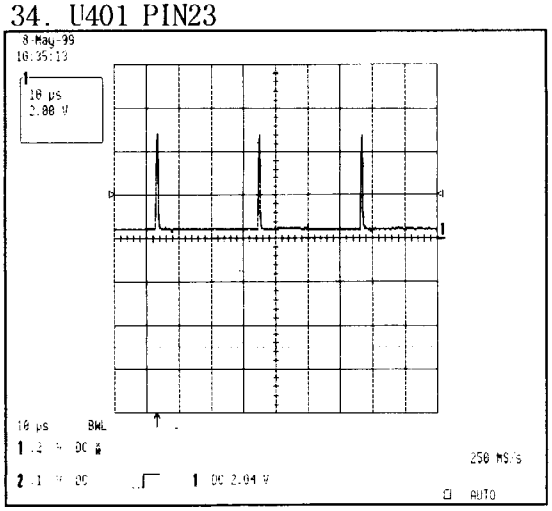
32. U401 PIN15,19,22



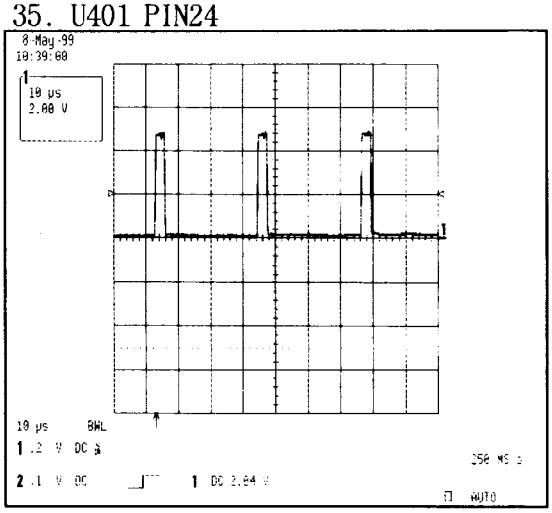
33. U402 PIN1,3,5



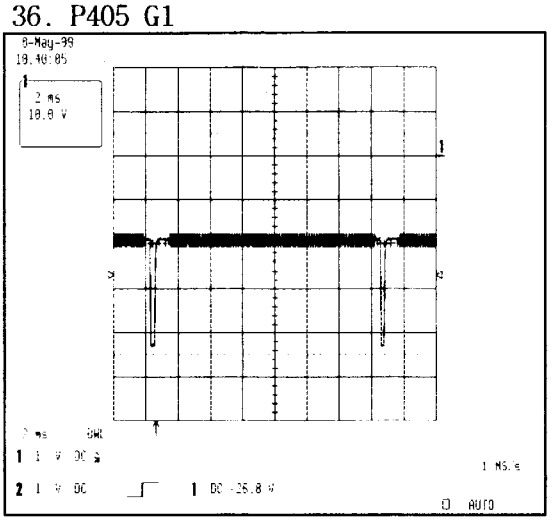
34. U401 PIN23



35. U401 PIN24

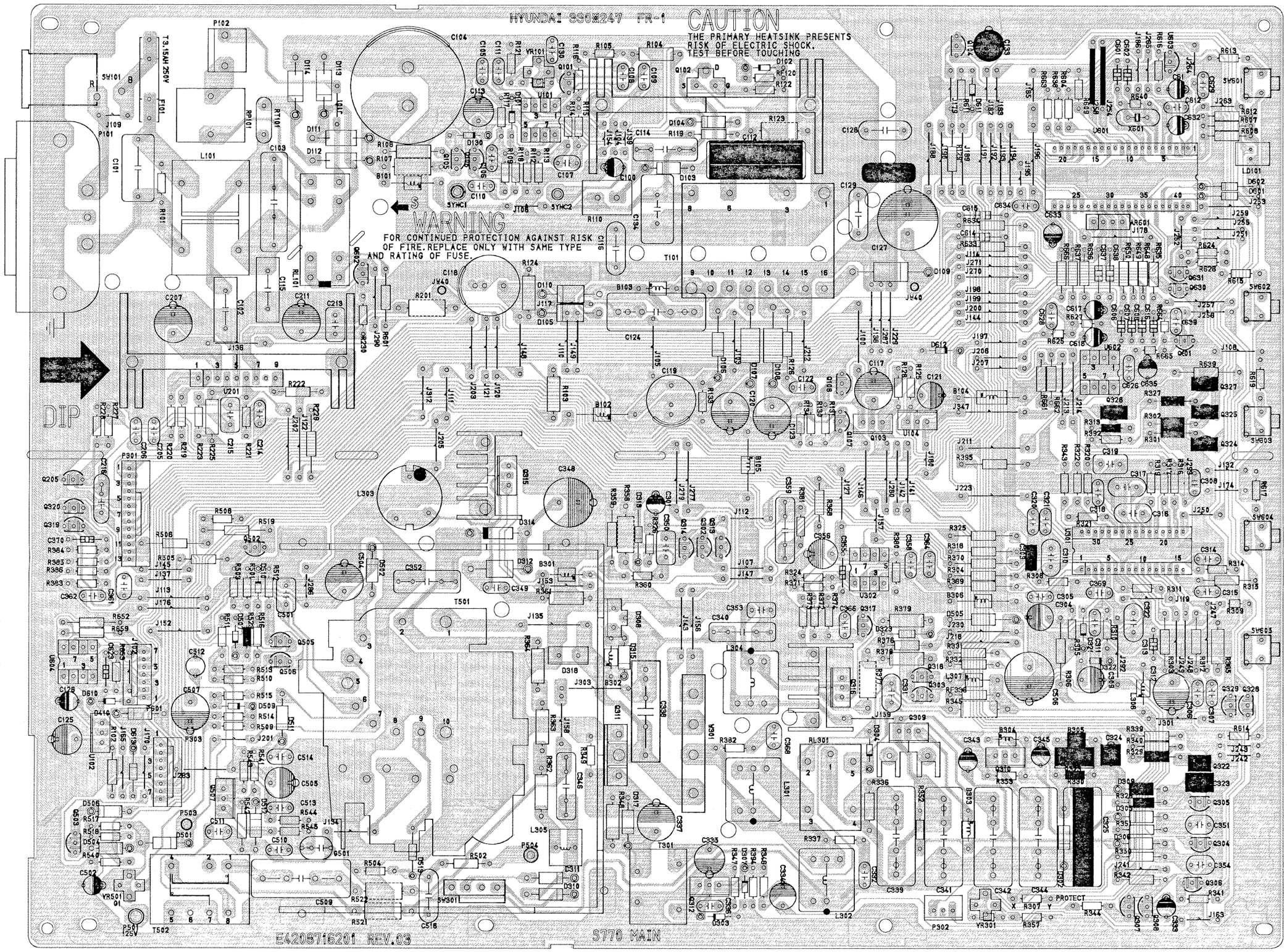


36. P405 G1

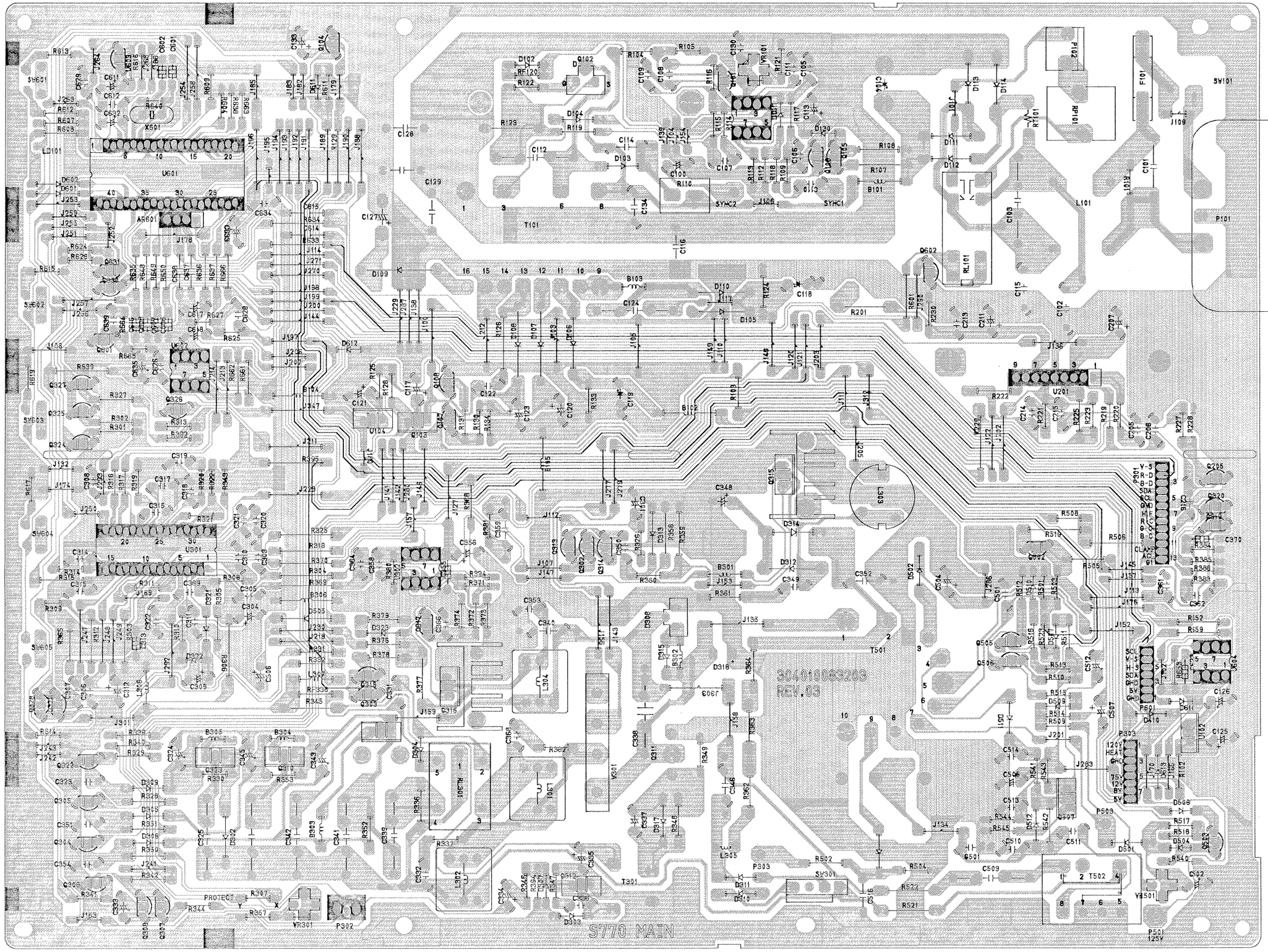


PCB Layout

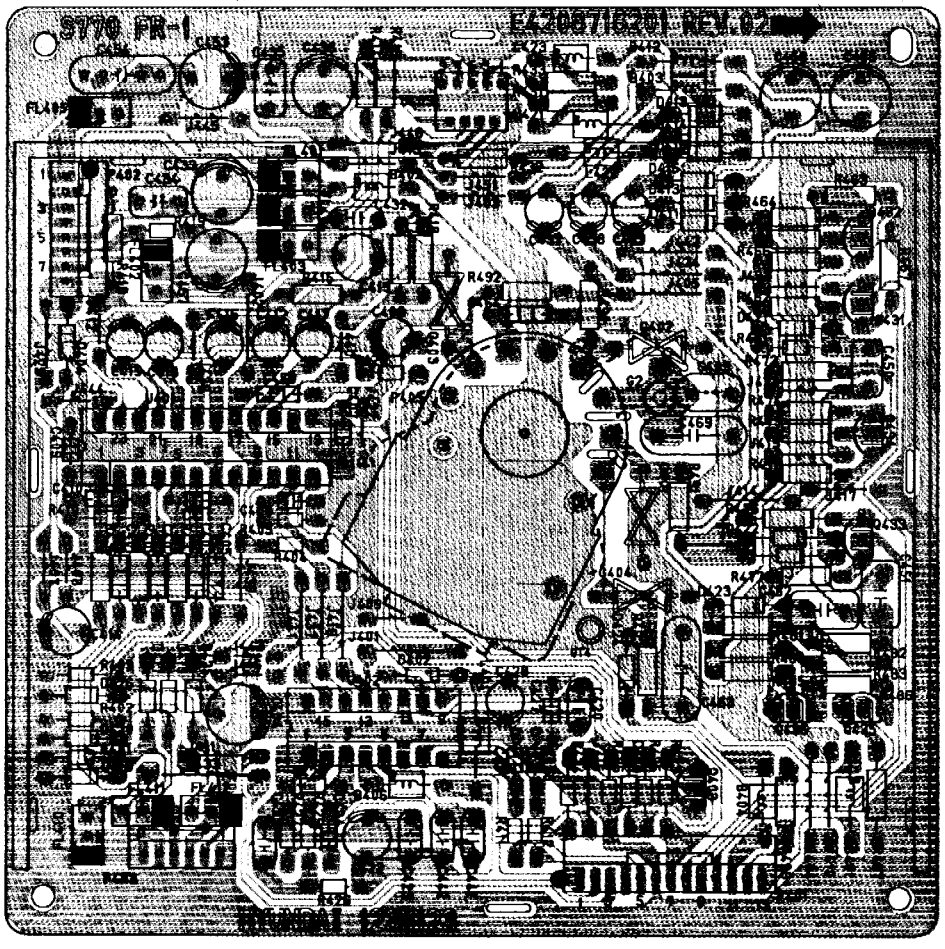
• Main Component Side



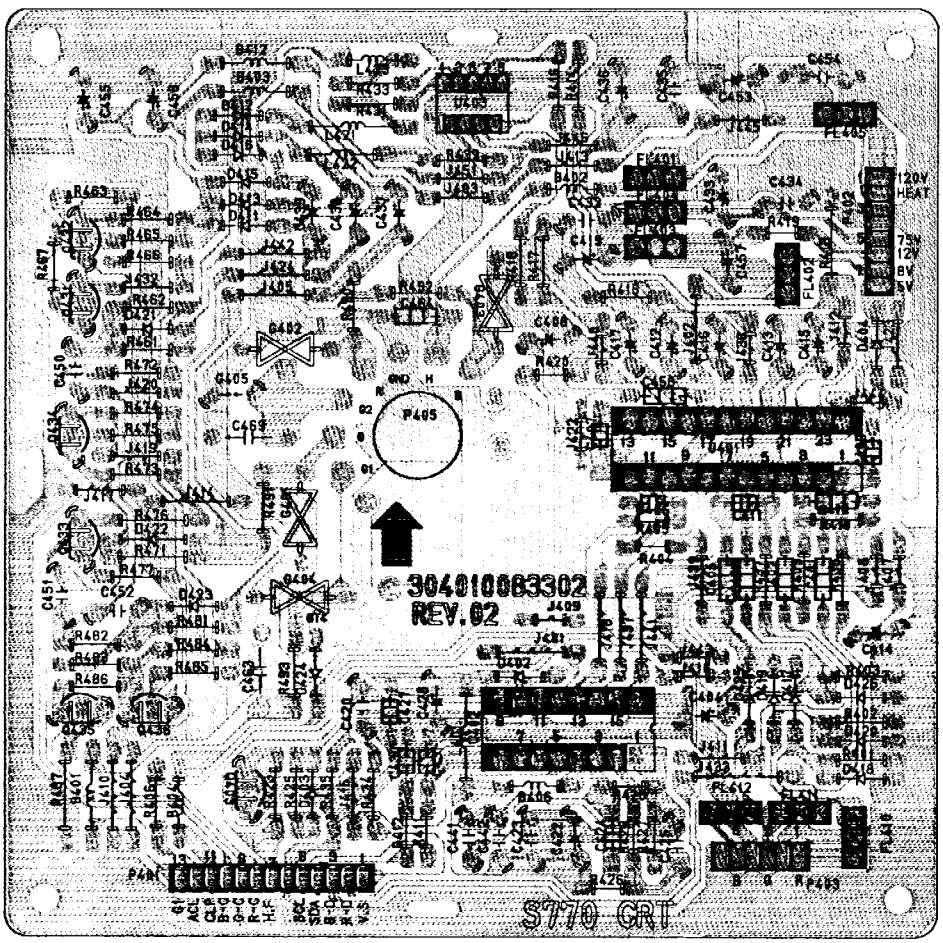
• Main Solder Side



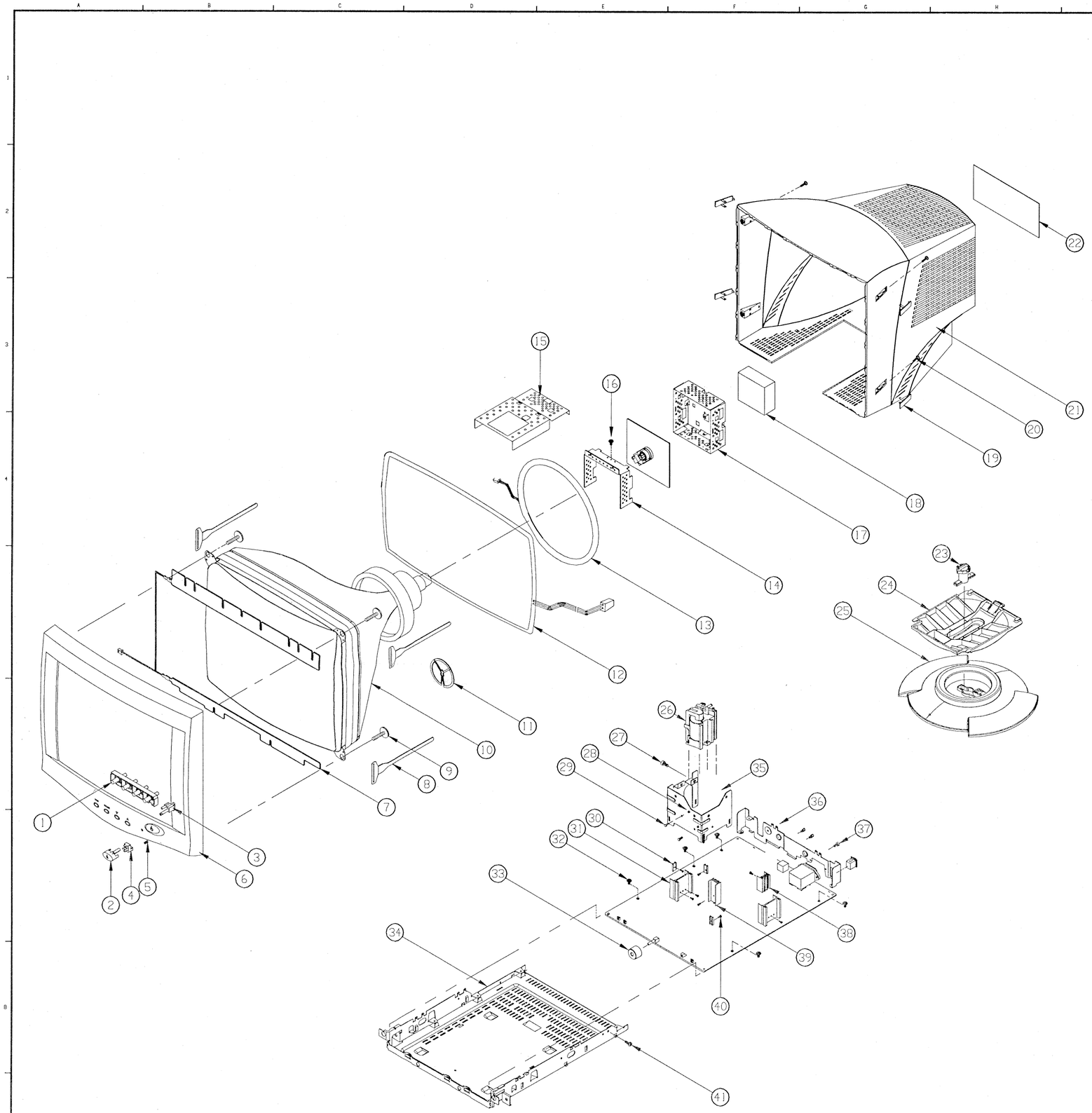
• CRT Component Side



• **CRT Solder Side**



Exploded View



NO	PART NO	PART NAME	품 목	DESCRIPTION	QT'Y
41	M17744006012	SCREW	스크류	BIN(+) M4X6	1
40	M11143008012	SCREW	스크류	BIN(+) M3X8	3
39	B4212501006A	HEAT SINK PWR	히트 싱크 파워	AL 6063S T5	1
38	B4212501005A	HEAT SINK PWR	히트 싱크 파워	AL 6063S T5	1
37	M11143008012	SCREW	스크류	FLT(+) M3*8	4
36	6110153000	BRKT SHIELD	브라켓 쉴드	SECC T=1.0	1
35	6120024801	SHIEL CASE ASSY	쉴드 케이스 어세이	A1050P T=1.6	3
34	6101134000	CHASSIS MAIN	샤시 메인	SECC T=1.0	1
33	6215187200	ENDLESS V/R B	엔드리스 브이알 비	ABS 94V-0	2
32	6129027600	SCREW	스크류	T/W(+) 3*8 MSZPC	5
31	6124030300	HEAT SINK POWER	히트 싱크 파워	AL 6063S T5	2
30	6124031301	HEAT SINK TR C	히트 싱크 티알 씨	AL 6063S T5	3
29	M11143010012	SCREW	스크류	BIN(+) M3X10	5
28	M31100030012	NUT HEX	너트헥스		2
27	5004000187	SCREW	스크류	TT2 BIN(+) M4X14	1
26	3510500057	FBT	에프비티		1
25	6201211650	SWIVEL BASE	스위블 베이스	ABS+PC	1
24	6201211750	SWIVEL UPPER	스위블 어퍼	ABS+PC	1
23	6201211800	SWIVEL PAD	스위블 패드	NYLON	1
22	B420452022A	PLATE SPEC	플레이트 스펙	POL.FILM T=0.5	1
21	6201218350	COVER REAR ASSY	카바 리어 어세이	ABS+PC	1
20	5004000187	SCREW	스크류	TT2 BIN(+) M4X14	8
19	6201211900	COVER SCREW	카바 스크류	ABS 94V-0	4
18	6253063401	SPONGE PAD	스폰지 패드	P.E POAM	1
17	6120028200	FENCE SHIELD CRT	펜스 쉴드 시알티	SPTE T=0.3	1
16	M11143008012	SCREW	스크류	BIN(+) M3X8	1
15	6120028300	SHIELD CASE	쉴드 케이스	SPTE T=0.3	1
14	6124030900	H/ SINK VIDEO ASSY	히트싱크 비디오 어세이	A1050P T=2.0	1
13	3500100907	R COIL	알 코일		1
12	3500100849	DEGAUSSING COIL	디가우싱 코일		1
11	B4218501101A	RING IMSULATOR	링인슐레이터		1
10	3010100074	CRT	시알티		1
9	6129026900	SCREW	스크류	ST2 BIN(+) M5X20	4
8	B4218500201C	RETAINER COIL	리테이너코일	SECC T=0.4	4
7	6105122900	TCO PLATE ASSY	티씨오플레이트어세이	A1050P T=0.5	1
6	6201251150	COVER FRONT	카바프론트	ABS+PC	1
5	B4214000701A	SPRING COM	스프링		1
4	6210095400	GUIDE POWER	가이드 파워	ABS 94V-0	1
3	6220069100	LED LENS	엘이디렌즈	ACRYL	1
2	6215217900	KNOB POWER	노브 파워	ABS 94V-0	1
1	6215217700	KNOB CONTROL	노브 컨트롤	ABS 94V-0	1

DRAWN BY	PLANNED BY	CHECKED BY	APPROVED BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN ** (INCHES) TOLERANCES ARE: LINEAR ± ANGLES ± RADII UNLESS NOTED: ±	ANGLE 3rd	TITLE	RF
J.H.YOO					SCALE N/S	EXPLODED VIEW	
1999.04.07					MDL S770B	SIZE A2	DWG NO. B421000XXXXX
HYUNDAI ELECTRONICS					REF NO.		

TAMP 031-2

FILE NAME : EXPLODED VIEW

DELUXSCAN®

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