Service Manual

ViewSonic A90f+-1

Model No. VCDTS23307-2R

19” Digital Controlled Color Monitor

(A90f+-1_SM_602-Rev. 1.0-October 2002)

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Revision History

Revision	Date	Description Of Changes	Approval
1a	10/9/02	Initial Release DCN-2658	K.Yang
1b	11/05/02	Revise DCN-2658	C.Shen

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1. Precautions and Notices

1.1 **SAFETY PRECAUTIONS**

1) Observe all cautions and safety related notes located inside the display cabinet and on the display chassis.

2)Operation of this display outside the cabinet or with the cover removed, may involves a shock harzard from the display power supplies. Work on the display should not be attempted by anyone who is not thoroughly familiar with precautions necessary when working on high voltage equipement.

3)Do not install, remove or handle the picture tube in any manner unless shatter-proof goggles are worn. People not so equiped should be kept away while handling picture tube. Keep picture tube away from body while handling.

1.2 Observe all cautionary and safety related notes located on the chassis, cabinet and display tube.

1.3 Operation of the monitor with the back cover removed presents a potential shock hazard. Only personnel familiar with the precautions necessary for safe working on high voltage equipment should attempt to carry out servicing.

1.4 Always wear shatter proof goggles when removing, installing or generally handing the picture tube. People not so equipped should be kept at a safe distance when any such handing is being undertaken. Do not handle the picture tube by the neck of deflection coil. Do not carry the picture tube resting against the body.

1.5 The picture tube is designed and constructed to limit X-Radiation to a safe level during normal operation. To maintain the required level of protection and safe operation, replacement tubes must be correctly adjusted and any protective circuits must not defeated.

1.6 **IMPORTANT-Safety Tests**

After servicing, and before returning the monitor to the user, a thorough safety test must be carried out to ensure there is no potential shock hazard to any operator(s) using the monitor.

All the following test must be performed. A monitor failing any of these tests should be rejected and have the problem rectified.

1.7 **A.C. Leakage Test**

Remove the power sourse. Connent the monitor to the circuit as in figure 1 below. Switch the monitor on/off switch to on. A reading of less than 3.5mA should obtained (ref. EN60950).

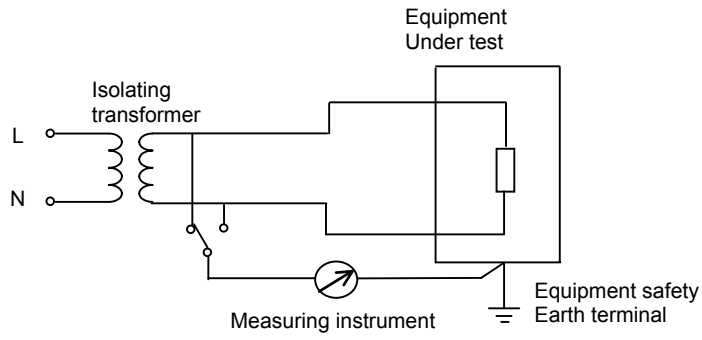


Fig. 1 Measurement of AC Leakage Current

1.8 **Voltage Breakdown Test**

Connent the live pin and neutral pin together. Switch the monitor on/off switch to on. Apply 1500VAC RMS or 2250VDC, 50Hz for one minute between this connection point(live and neutral pin short) and earth. Ensure no voltage breakdown occurs.

1.9 **Earth Resistance/Continuity Test**

Measure the resistance between the signal cable metal shell and the earth pin in the A.C. socket. At a current of 25 amperes, the resistance should be less than 500mohm.

NOTE: A portable appliance tester (PAT) is a suitable instrument to use for the above safety tests.

1.10 **H.V. Over Voltage Protection (Required for X-Radiation Safety)**

Adjust R176 slowly anti-clockwise until the over voltage protection circuit is activated, and the high voltage must be less than 33KV just before the activation. After test, R176 should be adjusted back to normal(=25.9KV)

CAPACITOR:				
C850	400V	4700PFM	CAPACITOR.CERAMIC	5230105501
C851	400V	4700PFM	CAPACITOR.CERAMIC	5230105501
C135	250V	33UFM	CAPACITOR.ELECTROLYTIC	5214433012
C139	100V	330UFM	CAPACITOR.ELECTROLYTIC	5214019612
RESISTOR				
R827	1/4w	2K ohm	RESISTOR.VR	5162161220
SEMICONDUCTORS				
I803	UC3842N		IC LINEAR	6644063111
I301	TDA9116 SDTP-32		IC.LINEAR A.S.D.C.	6644076308
I310	TDA8172 7P		IC.LINEAR	6644076000
I101	UC3842N		IC.LINEAR	6644063111
IA01	NT68F62U SDIP-42		IC.LSI MCU	6647008204
Q121	2SK2843		TR FET MOS	6626003202
Q433	BU4525AX		TR NPN	6621002801
Q801	2SK2648		TR FET MOS.	6626003208
D827	HZ5C1		DIODE ZENER	6615007834
OTHERS				
SR801	CSA-SS-212DM5		RELAY	5054613402
F801	250V/3.15A		FUSE	5054431539
T801	TPW-697		POWER TRANSFORMER	5061369700
T101 (RA)	TFB-280T		TRAQNS.FLYBACK COLOR	5062628031
T101 (RB)	TFB-280L		TRAQNS.FLYBACK COLOR	5062628032
V901 (RA)	M46QCK761X123 (TCO MDT)		CCRT/DY	5051286346

2. Specifications

CDT	Size and deflection angle		19 inch 90 degree
	Screen type		Pure, Flat, High Brightness
	Horizontal pitch / Dot pitch		0.22mm / 0.25mm
	Surface treatment		Anti-static AR coating
	Transmission rate		52.6%
Scanning Freq.	Horizontal Frequency		30kHz to 86kHz
	Vertical Frequency		50Hz to 150Hz
Video amplifier	Applicable pixel rate		175MHz
Resolution	Maximum		1600 x 1200
Modes	Factory preset/User modes		13 / 10
Power	AC input range		100 to 240 Vac
	Max. power consumption		<110W
	Power Management	Normal	<110 W
		Off	<3 W
User controls	Power Switch		On/off with Led indicator
	Up/Down adjustment Key		2 key pads for adjust Up / down keys are direct access for Contrast And Brightness adjustment
	“1” “ 2” Key		As a select key/ go to next sub menu
	“UltraBrite Mode “Key		As a select key/ go to High Bright Display mode
Rear connection	Signal connections	Standard Model	1.8 m signal cable with 15Pin D shell miniature male connector.
	Power input		AC socket with 1.8 meter cable
Agency Approvals	European	Safety	CB,
		Emissions	EN50081-1
		Immunity	EN50082-1
		Ergonomic	ISO9241Paart3 &ISO9241Part8
		VLMF	MPRII
		EPA	Energy Star
	USA	Safety	UL1950, Cul950 or CSA 22.2
		Emissions	FCC class B
		X-ray	DHHS
		Regulatory Filing	VCDTS23307-XYZ
Plug and Play	DDC 1/2 B		Version 2
Environmental Conditions	Operating Temperature Storage Temperature		0°C to 40°C –40°C to +60°C
	Operating Humidity		10% to 90%
	Storage Humidity		10% to 95 %
Dimensions	W x H x D		575 mm x 600mm x 630mm
Weight	Kg		25.5Kg (Gross)

Noted that A90f + belong to MPR II models.

Alignment default conditions:

3.1 Room luminance: 225 LUX.

3.2 Warm up: Mis-convergence: 30 minutes (Full white display).
Other spec.: 20 minutes.
Display usable: 15 sec.

3.3 CDT direction : East

3.4 Pattern generator : CHROMA 2250 or equivalent.; (Video O/P: 0.7 Vpp).

3.5 Earth Magnetic field:
Northern Hemisphere: Bh : 0.25 +/- 0.01 GAUSS ; Bv : 0.45+/- 0.01 GAUSS –U03 model.
Southern Hemisphere: Bh : 0 +/- 0.01 GAUSS , Bv : -0.52 +/-0.01 GAUSS.

3.6 AC Power input: 110V AC, 50/60 Hz ;230V AC ,50 /60Hz.

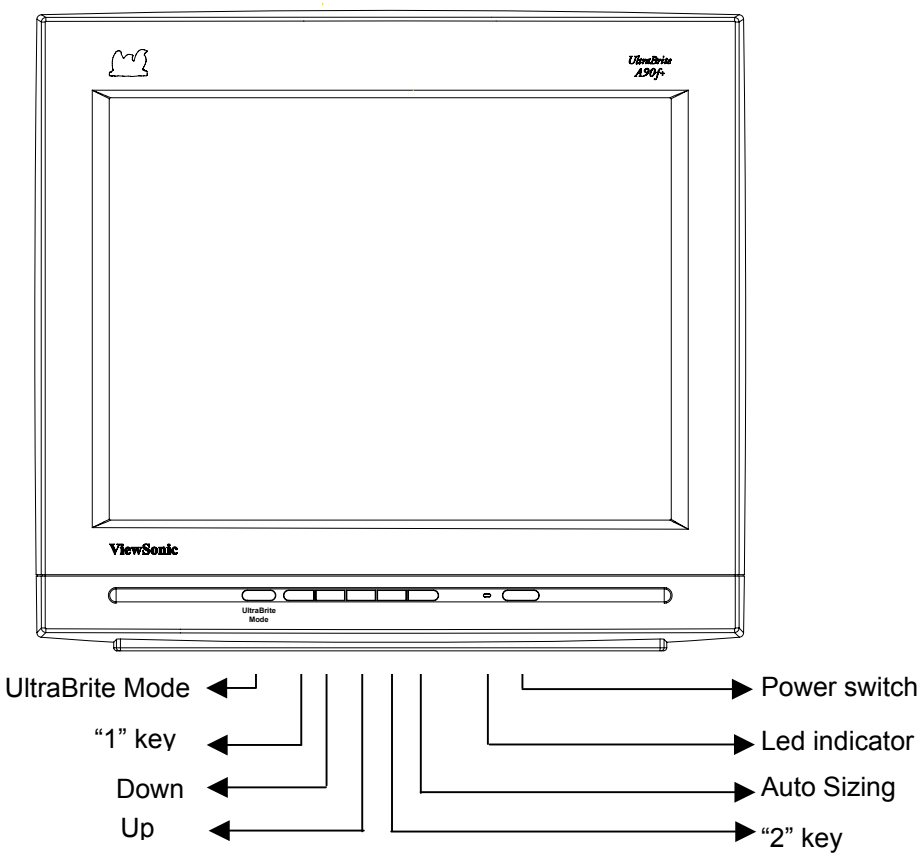
3.7 Ambient temperature: 20 ± 5 ℃.

3.8. Preset Mode Timing: Total 13 Pre-set Modes + 1 mode (mode 5 for self test setup)

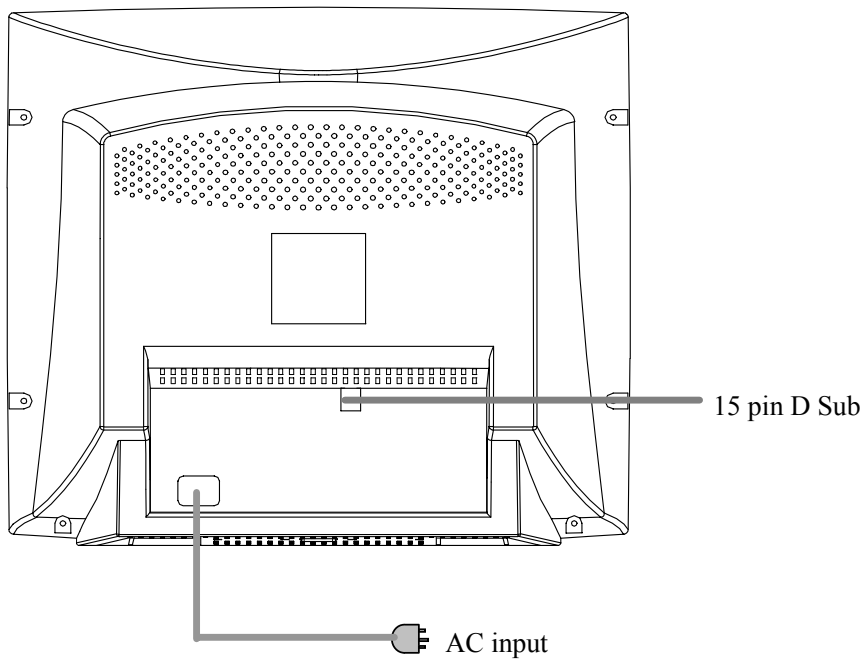
MODE	RESOLUTION H X V NO.	H.FREQ (kHz) V.FREQ(Hz)	H. POLARTY V.	HORIZ. TOTAL USEC	H. DISPLAY USEC	H.BACK PORCH USEC	H.SYNC WIDTH USEC	VERT. TOTAL: MSEC	V.DIS--PLAY MSEC	V.BACK PORCH MSEC	V.SYNC WIDTH MSEC	VIDEO RATE MHz
VGA	640 X 480 1	31.469 59.94	– –	31.778	25.422	1.907	3.813	16.683	15.253	1.049	0.064	25.175
VGA	640 X 400 2	31.469 70.078	- +	31.779	25.422	1.907	3.813	14.269	12.712	1.112	0.064	25.175
MAC	640X480 3	35.0 66.667	Composite Negative	28.571	21.164	3.175	2.116	15	13.714	1.114	0.086	30.24
	640X480 4	37.5 75	– –	26.667	20.317	3.81	2.032	13.333	12.8	0.427	0.080	31.5
VESA 85Hz	640 X 480 5 (for auto-size reference)	43.269 85.008	– –	23.111	17.778	2.222	1.556	11.764	11.093	0.578	0.069	36
VESA 75Hz	800 X 600 6	46.875 75	+ +	21.333	16.162	3.232	1.616	13.333	12.8	0.448	0.064	49.5
MAC	832X 624 7	49.725 74.5	– –	20.111	14.524	3.910	1.117	13.414	12.549	0.784	0.06	57.28
	800 X 600 8	53.674 85.061	+ +	18.631	14.222	2.702	1.138	11.756	11.179	0.503	0.056	56.25
VESA 75Hz	1024 X 768 9	60.023 75.029	+ +	16.660	13.003	2.235	1.219	13.328	12.795	0.466	0.050	78.75
	1024 X 768 10	60.241 74.927	– –	16.6	12.8	2.2	1.2	13.346	12.749	0.498	0.05	80
VESA 85Hz	1024 X 768 11	68.677 84.997	+ +	14.561	10.836	2.201	1.016	11.765	11.183	0.524	0.044	94.5
	1600 X 1200 12	75.0 60	+ +	13.333	9.877	1.877	1.185	16.667	16	0.613	0.04	162
VESA 75Hz	1280 X 1024 13	79.976 75.025	+ +	12.504	9.481	1.837	1.067	13.329	12.804	0.475	0.038	135
VESA	1024 X 768 14	48.363 60.004	– –	20.677	15.754	2.462	2.092	16.666	15.880	0.600	0.124	65

3. Control Location and Functions

Front view



Rear view



4.1. Function Key adjustment Description:

(a). Power switch: This is a "software "Key, Turns the display on and off. The power indicator will light "Green", when the display is on.

"1" key: Turn (on /off) OSD menu.

▽ Key: Down side to select item / decrease value

△ Key: Up side to select item / increase value

▽/△: Keys can directly access Contrast / Brightness adjustment

(b). **" 2 "** key: a select key or go to next sub menu.

(c). Pressing "2 & power" key at same time to switch monitor on and then pressing "1" Key will enter factory optimized OSD Menu (see Fig. 0)

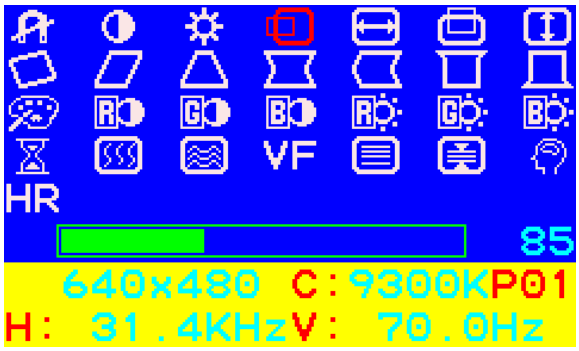
(d). Selected icon and then pressing "2" key will demagnetize CDT.

(e). High Brightness Key (UltraBrite Mode): this key will be effective only after switching on monitor
(not in preset state), Pressing this key will switch normal brightness to high brightness.
The next pressing will return to normal brightness.
In preset menu, Sup93 / Sup65 / Sup50 represent the high brightness of 9300K / 6500K / 5000K.

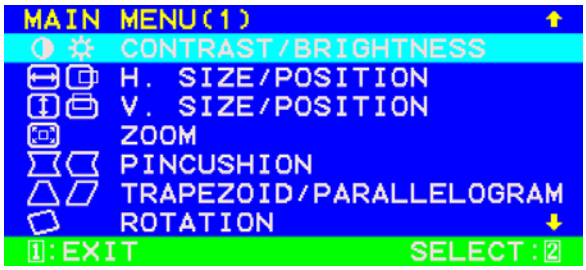
(f). Autosizing Key: pressing this key will automatically adjust the display to a proper setting.
Note this function only work precisely after all preset modes being set up.

For Autosizing reference, all maually set up preset modes must be saved by pressing "head " Icon.

Fig. 0 Factory OSD Menu



4.2 User OSD menu descriptions



Press "**1"** key to display a basic main menu (1) shown as below.

FIGURE 1(USER MODE OSD MENU 1)

Using ▽and △keys to move a cyan window bar to get your desired items. If it is selected,

Then pressing **"2**" key to display

Sub menu as below to start adjustment.

Using ▽ and △ to decrease / increase value on selected item. Noted that the menu can do two items adjust

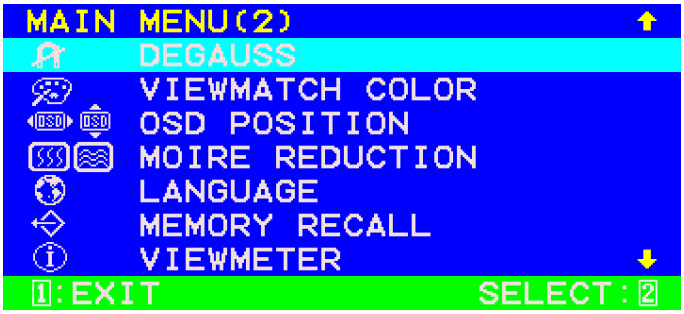
by pressing **"2"** key, it will change to another one in toggle.

In main menu (1), move the cyan window bar up to the first item or down to the last item, then the next bar moving will enter main menu (2) as below for other adjustment.

FIGURE 2 (USER MODE OSD MENU 2)

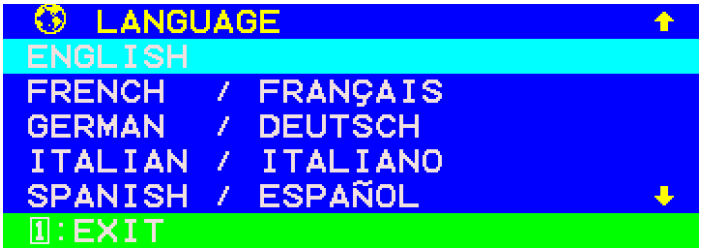
In main menu 2, if " VIEWMATCH COLOR" is selected, then pressing **"2"** key will display color sub menu as the following

The three default color modes (9300k, 6500k, 5000k) are factory preset, User can select these default colors but can't adjust and save.

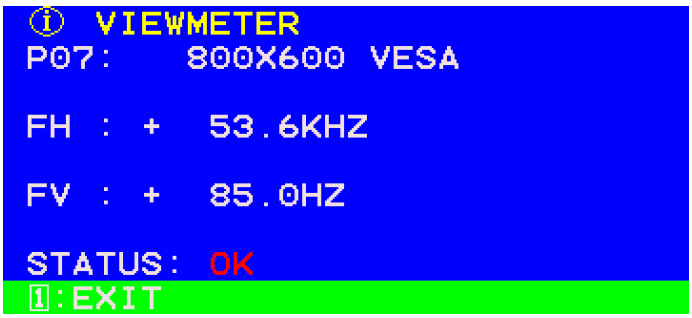


If "USER COLOR" is selected, then pressing **"2"** key will display next sub menu as below to start color adjustment.

In main menu(2), if "LANGUAGE" is selected, then pressing **"2"** key will display next sub menu as below for languages selection

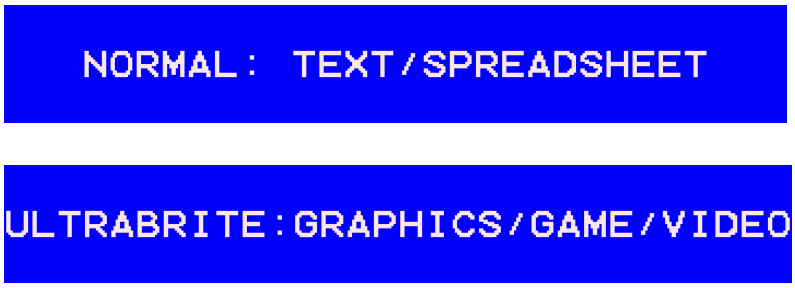


If "view meter" is selected, then pressing "**2**" key will display next sub menu as below to display timing information.



(VIEWMETER)

Normal brightness / High brightness



4. Disassembly Instructions

Disassembly Instructions

1.Swivel Base Removal

Face down the monitor(Fig 4-1), press the stopper then slide lift off the swivel base from the monitor,

2.Back Cover Removal

a) Remove two screws of the lower side of the back cover.(Fig4-2),(Fig4-3)

b) Use a small flat bladed screwdriver or a paper clip insert into the two respective crevices which located in the seam of the front & back cover on the top of the cabinet.

Hold and Push the tool down to release the snap-on lock, then remove the back cover. (Fig 4-4)

Caution : When servicing or replacing the CRT, disconnects the anode and discharges the anode shield completely.

As high voltage (25KV) may remain on the anode for an extended time after power off.

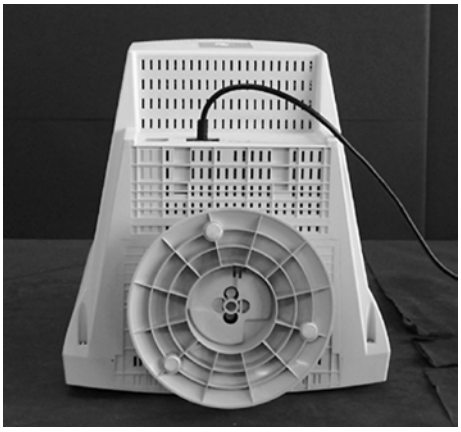
3.PCB Assembly Remove

a) Unplug two grounding connectors and the degaussing coil grounding connector from the CRT drive shield.

b) Remove CRT drive board from CRT neck (Fig 4-5).

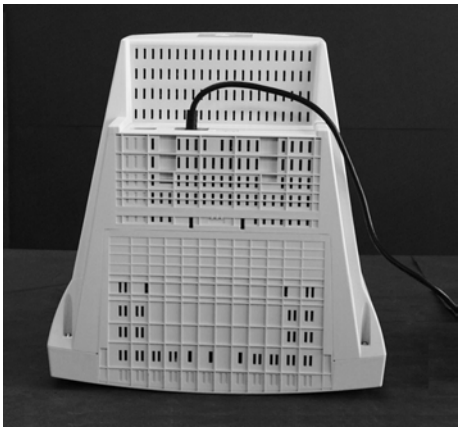
c) Unplug the DY connector, AC connector, Degaussing coil connector and the CRT grounding connector from the FBT shield.

4. Disassembly Instructions

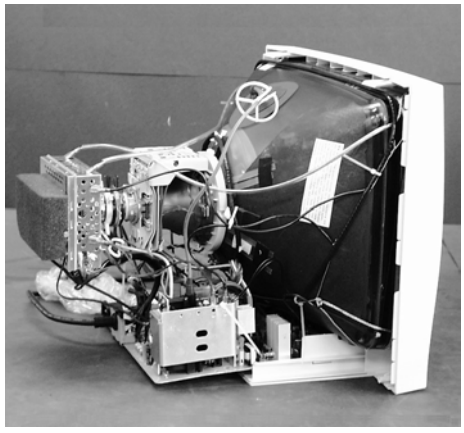


(Fig 4-1)

(Fig 4-2)

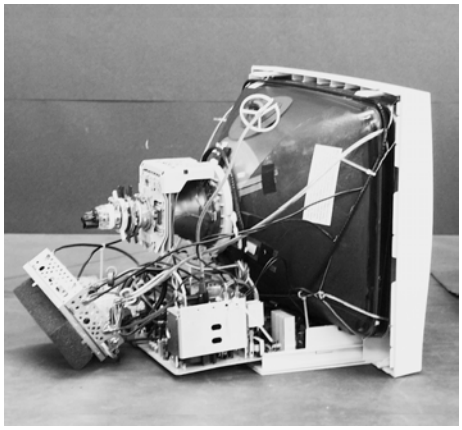


(Fig 4-3)



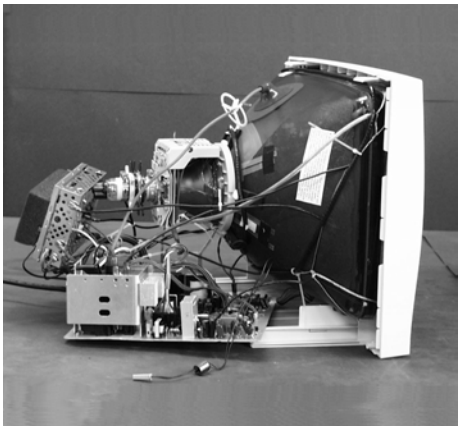
(Fig 4-4)

d) Discharges the remaining static electricity by shorting CRT anode to ground. Then remove the FBT anode connector.



(Fig 4-5)

e) Remove the PC main board from the chassis guide of the front cover. (Fig4-6)



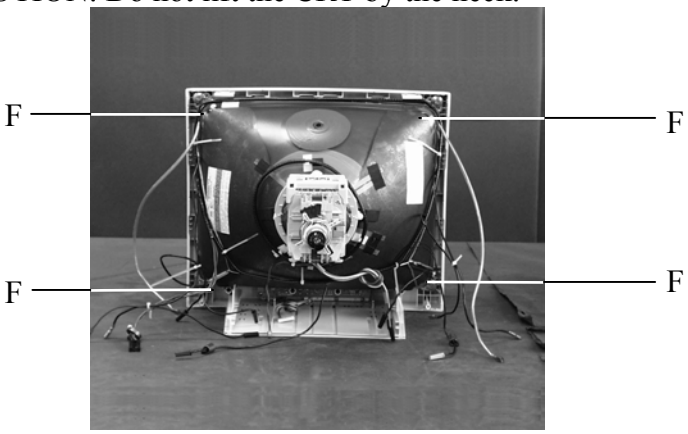
(Fig 4-6)

4.CRT Removal

a) CRT is supplied as ITC.

b) Remove 4 screws (F) from the front cover (Fig4-7) to move the CRT

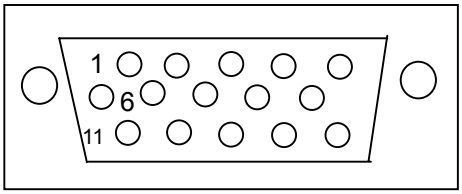
CAUTION: Do not lift the CRT by the neck.



(Fig 4-7)

5. General Connection & Applications

5-1.The Pin-assignments of the 15pin D-sub male miniature connector are shown below:



15 Pin Min D-sub male connector

PIN NO	PIN DESCRIPTION
1	RED
2	GREEN
3	BLUE
4	NO CONNECTION
5	GROUND
6	R-GROUND
7	G-GROUND
8	B-GROUND
9	+5V PC97
10	GROUND
11	NO CONNECTION
12	SDA FOR DDC
13	H.SYNC.
14	V.SYNC.
15	SCL FOR DDC

5-2 Monitor Installation

How to install the connections to your PC

1. Your monitor has two connection cables:
   A signal cable which connects to your computer's VGA connector.
   A power cord which connect to the wall outlet.
2. To ensure your safety when connecting the cable, always following these five steps:
   (Ⅰ) .Turn off the power to your computer and peripheral equipment.
   (Ⅱ). Position the monitor and computer so that you can easily access the rear side of each unit.
   (Ⅲ).Connect the blue-colored video signal cable D-sub connector to the signal connector on the graphics board (VGA connector) on your computer. (See your system user's guide for the exact location of your VGA connector.)
   (Ⅳ).Tighten the screws on the signal cable connector to prevent it from loose, and to keep out from radio and TV interference.
   (Ⅴ).To connect Power Cord between your monitor and wall outlet, you have to connect the power cord to the monitor power input socket on back of the monitor. Plug the other end of the power cord into your surge protector or properly-grounded electrical outlet.

6. Electronic Circuit Description

SWTCHING MODE POWER SUPPLY SECTION

Features:

1. AC input: 100Vac – 240Vac.
2. When Power saving is activated, secondary feedback will be changed to reduce the output voltage and shut down time-base as well as video circuit operation. Thus power is reduced.

6-1-1. **Circuit description:**

6-1-2-1 EMI Noise Filter

6-1-2-2

C802 and C803 build as Y capacitors, C804 is X capacitor, L801 and L802 are Common Mode Choke, those build as a two steps Noise filter.

6-1-2-3 **Power supply activation:**

The rectified voltage across C809 charges C815 through R809, R810, R811, R812, Q810, and D822. When UC3842 pin 7 rises up to 14V, Q816 turns on and Q810 turns off. C817 charge to 55Vdc approx. This voltage is ready for B+ of UC3842 at Pin7 during power save Mode. C844 provides a voltage for UVP (AC input under voltage protection). When C844 voltage is too low, Q814 turns off, voltage at pin 2 of UC3842 is over 2.5Vdc, and UC3842 will be turned off to protect power supply.

6-1-2-4 **Degaussing circuit**

Degaussing coil is connected to relay (SR801), and controlled by MCU through Q104 and Q104A. When power is turned on, SR801 relay close, automatic demagnetization will operate for a few seconds before SR801 returns to open. Degaussing also can be operated in the OSD menu.

6-1-2-5 **UC3842 PWM controller**

UC3842 is a current feedback PWM controller:
Pin1---is feedback positive end.
Pin2---190V and 9V at secondary side of power transformer provide a sampling voltage to pin 2 of UC3842 via I808, I807.
Pin3---is a current feedback input. When it is over 1V, there is no output at pin6 to drive output stage.
Pin4---This pin determine the operating frequency.
Pin6---This output drive output power MOSFET(Q801).

6-1-2-6 **Output voltage feedback control theory**

Feedback control is sampled from 190Vdc and 9Vdc at secondary side, through VR R827, it feedback to reference pin of I808, then I807 coupled it to pin 2 of UC3842. When output voltage rise up, I808 reference voltage (R) rise up too, and I808 cathode (K) voltage goes down. More conduction on I807 occurs and the voltage across R826 rises. Thus UC3842 pin2 voltage rises to reduce the duty at output pin6. Q801 conduct less to reduce the secondary side voltages, thus to stabilize the DC voltages at secondary side.

6-1-2-7 **Over-voltage protection**

When output voltages are too high, voltage across C817 will be high and voltage drop on R872 is also high. It will force Q808, Q807 to conduct and pin8 of UC3842 to ground. Thus UC3842 stop to operate.

6-1-2-8 **Under-voltage protection**

If AC input voltage is too low, voltage across C844 will be too low and force Q814 to turn off. Voltage across C822 rises up. When pin2 of UC3842 rises up to 2.5V, pin6 stop to drive output. Thus Q801 is protected.

6-1-2-9 **Power supply working frequency**

UC3842 working frequency is constant between 30.25 kHz and 31.25 kHz, R817A adjust the frequency.

6-1-2-10 **Power Saving control**

At normal operating state, Q811 on, Q812 off, output voltage are normal. If monitor enter power save Mode, Q811 and Q812 off, feedback voltage increase more to reduce output voltages down to 1/4 of normal. At power save mode, I805 turns off, R821 become in series with R817A, R817. The working frequency will be reduced to 15 kHz approx.
When monitor enter power saving state, voltage across C817 start to supply UC3842 at pin7 for continue working.
Q805, Q806 switch on to supply 5V for MCU(IA01).

6-2 DIGITAL CONTROL CIRCUIT(Signal control by Microprocessor unit; IA01)

Horizontal and vertical sync. Signals coming from CRT drive Board (PWB—0414) are fed into pin41 (H. sync.) and pin42 (V. sync.) of IA01. When monitor power on, pin4 of IA01 reset and IA01 start to check if the sync. Signals are exist at pin 41 and pin 42. The control tables are as follows:

Power state	Normal	Off
Pin42,Pin41	V sync. H. sync.	H. sync. or V. sync. not exist, or both not exist
Pin23	Logic high	Logic low
I804	OFF	ON
Pin24(G)	High	Low
Pin22(A)	Low	High
LED	Green	Amber

.

Off mode:

When both sync. Signals or one of the sync. Signals are absent; IA01 will send a “low logic” at pin 23 and pin21 to turn off Q811, Q812. The secondary voltages will be greatly reduced, and Q867, Q866 are turned off. The heater voltage becomes zero. Monitor enter lower power consumption.

Normal Power supply operation:

When monitor is switched on, the sync signals are both exist, then IA01 will send “Low logic” at pin 13 to switch on the relay BR801 via Q104 and Q104A and thus produce a very high current circulate the degaussing coil. This signal will sustain for a certain period, thus the display is demagnetized.

The sync signals are buffered by IA01 and output at pin 41, 42 to synchronize the time-base controller I301. IA01 will also initiate I301 by IIC bus build by pin 28(C.SCL), pin 27(C.SDA). This IIC bus is also responsible to initiate the video pre-amplifier I901and OSD I903. After the initiation is completed, I301, I901 and I903 will operate normally.

Pin 17 ~ pin 20 provide the logic to control the horizontal CS linear correction circuit according to the horizontal frequency range as the following table.

IA01 o/p / H. freq.	Pin20 Cs0	Pin19 Cs1	Pin18 Cs2	Pin17 Cs3
FH < 32kHz	H	H	H	H
32kHz < FH ≤ 36kHz	H	L	H	H
36kHz < FH ≤ 40kHz	L	H	L	H
40kHz < FH ≤ 45kHz	H	H	H	L
45kHz < FH ≤ 49.5kHz	L	H	H	L
49.5kHz < FH ≤ 58kHz	L	L	H	L
58kHz < FH ≤ 65kHz	H	H	L	L
65kHz < FH ≤ 70kHz	L	H	L	L
70kHz < FH ≤ 87kHz	H	L	L	L

Pin 36 (F/V) provides horizontal C linearity control.

Pin 40 provide rotation signal to rotation circuit build by Q471, Q472 and Q473 and thus control the current circulate the coil around the deflection yoke to rotate the display.

Pin 31 short to ground via 15pin D sub connector when it connect to PC. When it is not shorted to ground, power saving feature is switch off, monitor will display “PLEASE CHECK SIGNAL” as self test pattern. IA02 is E^2PROM for IA01 to save settings of all modes and DDC data.

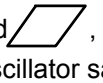
6- 3 TIMEBASE CIRCUIT

6-3-1 TIMEBASE CONTROL (I301), HORIZONTAL

I301 is an I^2C control Time-base processor. By I^2C bus (pin29,30 (SDA,SCL)) it can communicate with IA01(MCU).

H. sync, and V. sync. come from pin41, 42 of IA01 to pin1, and 2 of I301. When the H. Freq. is over 89 kHz or below 28 kHz, I301 will shut down to protect the horizontal output CKT from being damaged. The horizon. Oscillator is built by C303 and R301, and determines the horizontal frequency range. C304, C305, R302 build up PLL 1 loop filter.

Via  Icon, the IIC-bus allows a linear adjustment of the relative phase between horizontal Sync. and oscillator saw-tooth (in PLL 1 loop).

By  and  , correction of pin unbalance and parallelogram are done by modulating the phase between oscillator saw-tooth and horizontal. fly back (in loop PLL2)

The PLL2 phase detector is similar to PLL 1 detector, it compares the Horizontal. Flyback pulse at pin 12 with the oscillator saw-tooth wave-form. The controlled currents are independent of Horizontal. Freq. The PLL 2 thus compensates for the delay in the output horizontal deflection CKT by adjusting the phase of the HDRV (pin26) output pulse.

6-3-2 HORIZONTAL OUTPUT STAGE

The Horizontal Drive Pulse output at pin 26 is pulled up to 12V to drive Q404 and then coupled via T401 to output transistor Q433 for on-off control. Thus saw-tooth current through Horizontal Deflection Yoke is obtained.

The function of C-correction is to correct the asymmetrical non-linearity of picture. L402 and horizontal Yoke are in series for C-correction. Pin36 of IA01 provides a voltage which depends on Horizontal Frequency to control L402 via Q405, thus the inductance of L402 changes according to the Horizontal Frequency to correct the linearity.

The function of S-correction is to correct the symmetrical non-linear distortion equidistant lines.

C416, C423, C419, C420, C421 are S-correction capacitors, also they block the DC voltage to the Yoke. C416 is a fixed one; the others are controlled by IA01 via Q417, Q411, Q413, Q415 switches. When any switch turns on, the accordingly capacitor becomes in parallel with C416. The switches on-off depend on the Horizontal Frequency. They are:

Horiz. Freq.	C416 Fixed 0.24	C423 controlled by Q416 0.1(CS0)	C419 controlled by Q410 0.22(CS1)	C420 controlled by Q412 0.56(CS2)	C421 controlled by Q414 1.2(CS3)
70 < fh ≤ 87kHz	ON	ON	OFF	OFF	OFF
65 < fh ≤ 70kHz	ON	OFF	ON	OFF	OFF
58 < fh ≤ 65kHz	ON	ON	ON	OFF	OFF
49.5 < fh ≤ 58kHz	ON	OFF	OFF	ON	OFF
45 < fh ≤ 49.5kHz	ON	OFF	ON	ON	OFF
40 < fh ≤ 45kHz	ON	ON	ON	ON	OFF
36 < fh ≤ 40kHz	ON	OFF	ON	OFF	ON
32 < fh ≤ 36kHz	ON	ON	OFF	ON	ON
≤ 32 kHz	ON	ON	ON	ON	ON

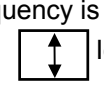
6-3-3 SUPPLY VOLTAGE CONTROL FOR HORIZONTAL DEFLECTION

The B+ control function block is included in I301 which consists of an operational trans-conductance amplifier, a voltage comparator, a flip-flop and a discharge circuit. Pin 28 of I301 is a drive voltage which consists of horizontal width, pincushion, and trapezium and pin corner correction information. This voltage is controlled by IA01 via I^2C bus. The drive voltage feed into pin15 (BIN) of I301. The operation frequency of the B+ control block is the same as horizontal frequency. The B+ drive output of the control block is at pin 28(B.DRV.), this drive voltage switch Q402 on-off via a buffer build by Q400 and Q401. Q402 act as a step down DC converter to drive horizontal deflection output Q433 via L401. The width, pincushion, trapezium information are modulated on the DC converter by changing the duty of the B+ drive.

Moreover, the B+ duty is controlled with a charging circuit at same time. When the Q302 is OFF, the voltage at pin16 of I301 will linearly increase with a charge time of determining by R326 and C308 to modulate B+ duty.

Horizontal DC centering circuit is build by Q423, Q424. By controlling the small current flow in or out of L405, it will provide DC center compensation for CDT.

6-3-4 TIMEBASE CONTROL (I301), VERTICAL

The vertical free running frequency is determined by C312 (pin 22 of I301). The amplitude of the output at pin 23 can be adjusted via  Icon.

 Icon provides a DC shift at the saw-tooth output at pin 23 and the EW drive output EWDRV (pin24) in such a way, that the whole picture moves vertically while maintaining the correct geometry.

6-3-5 VERTICAL OUTPUT STAGE

The power amplifier driving the vertical yoke assembly is a DC design-based on power amplifier I310 TDA8172.

The vertical deflection coil is connected to pin5 of I310 via P401A.

The saw-tooth signal is derived from Pin 23 of I301 and fed to pin1 of I310 via R306. The DC bias voltage is derived from pin13 of I301 and fed to pin7 of I310 via derived R325 / R327 to optimize the vertical position.

There are two supply voltages for I310, -15V is applied at pin4 via R384, +15V DC voltage is applied through R386 to pin2 and pin6 for the output stage during the retrace time. The supply voltage for the output stage during the retrace time is derived from the fly-back generator output at pin3 of I310 and applied through C388 to pin6.

6- 4 HIGH VOLTAGE GENERATOR AND BLANKING CIRCUIT

I101 is a current mode PWM controller which provides the drive signal for high voltage generator. It is synchronized by horizontal blanking signal coming from deflection circuit via Q111. Q121, Q124 are high voltage output switches. T101 provide the high voltage (25.9KV) to CDT anode. Pin13 of T101 provides feedback to pin2 of I101 to control the duty when high voltage is varied according to the beam current. Thus it gives a very good high voltage and size regulation. A very precise geometry distortion is achieved. R176 provides high voltage adjustment.

Pin5 of T101 senses high voltage for OVP protection. When high voltage is over 33kV, it raises the emitter voltage of Q114 to the degree that is 6.8V higher than Q115 collector, Q116 start to conduct and shutdown the PWM (I101) by reducing the voltage at pin1.

Pin 8 of FBT senses the beam current. When beam current rise, base voltage of Q126 drop and so the emitter does. The voltage across C108 drops to pull down the voltage at pin15 of I901 (PWB-0414). When voltage at pin15 of I901 drops under 6V, contrast of display start to decrease. R167 set the light output where the contrast (or full white screen light output) start to drop. If the beam current is too high, Q118 will conduct and shutdown PWM controller (I101).

Pin7 of FBT provides negative bias for Grid1 of CDT.

Pin5 of I310 provides vertical blanking to base of Q108 via D113. Q108 collector pulse gives a proper blanking level at Grid 1 of CDT. When monitor turns off, pin3 (H.UNLOCK) is pull high to turn off Q108 via D108. Grid 1 of CDT is then pulled down to most negative voltage from pin7 of FBT to protect CDT.

6- 5 Dynamic focus circuit

The vertical dynamic focus come from pin 32 of I301 and feed to base of Q105 via R105 and C103. The horizontal dynamic focus is taken between L402 and Horizontal S correction capacitors. It is step up(amplified) to the certain level voltage (650V approx. at 80kHz Timing Mode) and combine with Vertical dynamic focus waveform through L403, and then feed to PIN 12 of FBT. The dual trace parabola wave-form plus the DC focus voltage gives sharp and clear display for the whole screen.

The two variable resistors on top of FBT provide focus setting.

The bottom one set Grid 2 voltage of CDT.

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6- 6-1 Video and CDT drive circuit

7-6-1 VIDEO PREAMPLIFIER (I901)

The signals come from PC through P901 to CDT drive board (PWB-0414). Pin7 (Red), pin5 (Green), pin3 (Blue) feed to pin11, 6, 2 of I901 (video pre-amplifier). Pin 4, 9, 13 of I901 are OSD R, G, B video signals input that come from OSD IC I903. Pin 12 of I901 is the input for OSD blanking signal which blank the normal video as OSD video signal is active. Since the video inputs are AC coupled to I901, so I901 need a clamping signal (at pin 19) from H. sync (IA01 pin 34) to give DC restoring at I901 outputs. The horizontal blanking signal is provided from PWB-0334. Via P903, it connects to pin 27 of I901. The video outputs of I901 will have the level darker than the video black level during the horizontal retrace time. Pin 20 and 21are **I^2C** input for MCU (IA01) to control video. By IIC bus MCU will initiate I901 and control the contrast, brightness, R/G/B gain, and R/G/B bias. Pin15 is an ABL control input. By detecting the beam current, it will reduce the contrast when the beam current exceeds the setting point.

6-6-2 VIDEO DRIVE AND OUTPUT CIRCUITS

After being pre-amplified, the R. G. B. video signals set output at pin35, pin32, and pin29 of I901 respectively. The amplitude of the signal at theses output are about 2.8Vp-p. Those video signals are connected to I904 at pin 7, 6, 9 respectively.

The I904 is video output amplifier to amplify the R, G, and B signals. They offer about 50 Vp-p (H.B) signals in amplitude to drive the cathodes of CRT.

L912, L942, L972, are the peaking coils, for the compensation of high frequency response.

The DC off-set bias voltage is set up by R902, R903 at pin30 of I901.

The cathode cut-off setting voltages required for white balance are obtained from pin23 (g), pin25 (r), pin26 (b) respectively, these outputs magnitude can control the conduction of transistors Q903, Q933, Q963 individually. The DC bias of the cathode is then varied to optimize the color temperature of background.

Brightness control: Pin 2 of IA01 provides Brightness control. It feed through P903 to base of Q910 to vary R, G, and B bias at cathodes simultaneously.

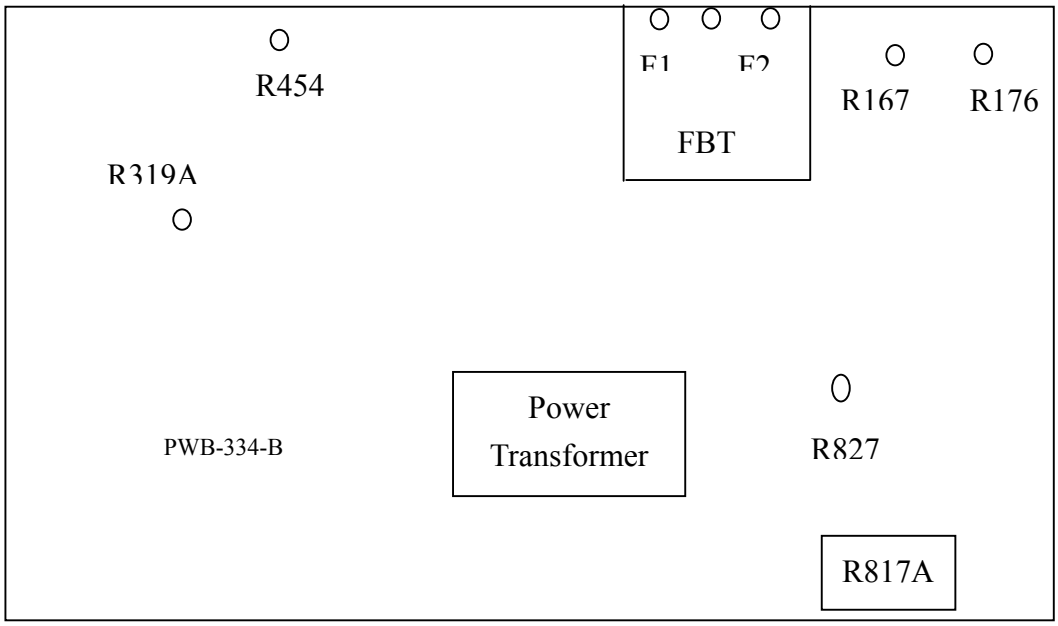
7. Adjustment

Signal generator: Chroma 225 or equivalent.

The adjustment data with tolerance is only for setting to the optimum performance.

SERVICE ADJUSTMENT LOCATIONS

Main Board (parts side view)---PWB-0334-B



F1	Variable Resistor on top of FBT for Static Focus adjustment.
F2	Variable Resistor on middle of FBT for Dynamic Focus adjustment.
G2	Variable resistor on bottom of FBT for Grid 2 set up.
R167	Full white brightness adjustment.
R176	High voltage setting.
R454	Raster center.
R827	B+ = 82V setting.
R817A	Set power supply working frequency.
R319A	Set 35k/66.7hz H.SIZE over bezel 2mm.
Degauss	To degauss function.
Enter key	Enter OSD key.
Down key	Decrease adjust value or counter clockwise select Icon
Up key	Increase adjust value or clock wise select Icon

7-1 B+ (82V) output voltage adjustment

a). Apply Chroma 2225 signals with any pattern to the monitor.

b). Connect AC input and power on the monitor.

c). Brightness at center, contrast at maximum.

d). Adjust R827 for the voltage to 82V of D816 .

7-2 High voltage

a). Apply Chroma 2225 signals with 31.47kHz / 60Hz (640 x 480) Mode and full white pattern to the monitor.

b). Connect AC input and power on the monitor.

c) ..Brightness at center, contrast at maximum.

d) .Adjust R176 for Normal high voltage = 25.9 kV

7-3 Full brightness setting (Timing Mode 13)

a) .Apply Chroma 2225 signals with full white pattern to the monitor.

b). Connect AC input and power on the monitor.

c). Brightness at center, contrast at maximum.

d). Adjust preset Horizontal and vertical size.

e). Set R, G, B bias and Gain (follow color temp. adjustment procedure)

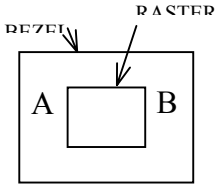
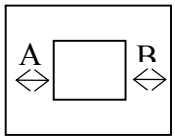
f). Adjust R167 to get 29+/-1FL

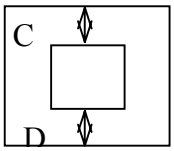
7-4 OSD Adjustment (See the table below), (Enter Factory preset OSD Menu)

Turn on the monitor by pressing power switch and OSD on/off key at the same time, release power switch and continue to press enter key, then release the enter key after display appears.

7-5. Pre-set Modes Alignment

Note: For auto-sizing function, all preset modes must be saved by pressing “head” Icon in preset OSD menu after adjustment

Item.	Alignment description.	Alignment specification (Refer spec.).
(1). Horizontal size preset	1). Pattern: CHROMA 2225, Pattern 1. Brightness: Center. Contrast: Max. 2). Mode: 35kHz/66.7Hz 3). H. size set at 127 4). Adjust R319A until size is 2mm over-scan bezel each side.	
(2). Horizontal Size Adjustment  (Every Mode)	1). Pattern: CHROMA 2225, Pattern 1. Brightness: Center. Contrast: Max. 2). Enter factory preset menu. -a).Select ”Horizontal Width” Icon. -b).Pressing ”UP or DOWN” Key and adjust “Video display” to 352 ±1mm.	(Every Mode: 352 +/- 2 mm).
(3) Raster center adjustment. B-A <= 2 mm	* Mode: Mode 13(1280 x 1024 @75Hz) * Pattern: Black (only background visible). * Brightness: raster visible. * Adjust R454, move the raster at center of Bezel opening.	
(4). Horizontal Phase Adjustment.  (Every Mode).	1). Pattern: CHROMA 2225, Pattern 1. Brightness: Center; Contrast: Max. 2-a). Select” Horizontal Phase” Icon. -b) Pressing ” UP or DOWN” Key and adjust “Video display” to horizontal Center.	 | A-B | ≤ (Every Mode).
(5).Vertical Height Adjustment.  (Every Mode.).	1). Pattern: CHROMA 2250, Pattern 1. Brightness: Center. Contrast: Max. 2-a). Select ”Vertical Height” Icon. -b).Pressing ”UP or DOWN” Key and Adjust ”Video display” to 264 +/- 1 mm.	264 ±2mm (Every Mode).

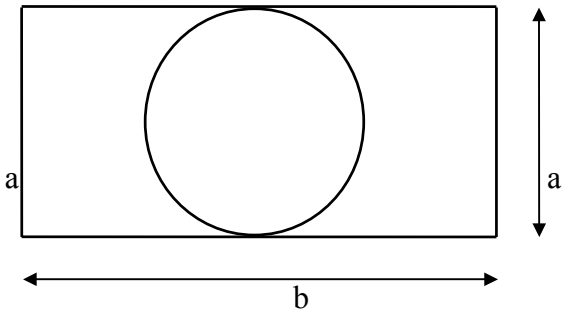
(6). Vertical Center Adjustment.  (Every Mode.)	1). Pattern: CHROMA 2225, Pattern 1. Brightness: Center; Contrast: Max. 2-a). Select" Vertical Center" Icon. -b). Pressing "UP or DOWN" Key and Adjust "Video display" to vertical center.	 $\|C-D\| \leq 1mm$ (Every Mode)
(7). Rotation Adjustment. 	1). Pattern: CHROMA 2225, Pattern 1. Brightness: Center; Contrast: Max. 2-a). Select "Rotation" Icon. -b). Pressing" UP or DOWN" Key and Adjust "Video display" to center.	Adjust" Mode 13" Only.
(8). Geometric distortion Adjustment. a). Pin-balance Adjustment.  (Every Mode) b). Parallelogram Adjustment.  (Every Mode) c). Pincushion Adjustment .  (Every Mode) d).Keystone Adjustment  (Every Mode)	1). Pattern: CHROMA 2225, Pattern 1. Brightness: Center; Contrast: Max. 2-a) Pin-balance Adjustment : 1). Select "Pin-balance" Icon. 2). Pressing "UP or DOWN " Key and adjust (orthogonality) to get the best. 2-b). Parallelogram Adjustment: 1). Select " Parallelogram" Icon 2). Pressing " UP or DOWN " Key and adjust (orthogonality) to get the best. 2-c). Pincushion Adjustment: 1). Select "pincushion" Icon. 2). Pressing " UP or DOWN" Key and adjust to get the best. 2-d). Keystone Adjusts: 1). Select "Keystone" Icon. 2). Pressing "UP or DOWN" Key and adjust to get the best.	1). Setting: 352(w) x 264 (h) mm. Brightness: Center; Contrast: Max. 2). Spec.: a) pincushion distortion <1.0 mm. b) local distortion: < 0.5 mm. (Every 50mm only). c). Other : Any of distortion should be fall into <= 1.5 mm. * Use Window Gauge (Every Mode)

e). Top Pin corner and Bottom Pin- corner Adjustment. (Every Mode).	2-e). Pin-corner Adjusts: a). Select " Top  ", " Bottom  " , Pin-corner Icon. b). Press "UP or DOWN" Key to adjust.	
(9). Brightness. 	Brightness set at Center.	. Brightness: Center.
(10). Contrast. 	Contrast set at Max.	Contrast: Max.

Item.	Alignment description.	Alignment Specification.(Refer spec.).
(11).Color Temperature Adjustment: a). 9300°K / Su93 : Background White Balance.	*Mode 13: 1280 x 1024, 79.976k / 75 HZ. Pattern: 11(Black pattern). *Brightness: 95; Contrast: max. *Select “Color” Icon. R G B Select 9300°K / Su93: 1).R,G,B bias: set at 107 (Samsung ITC), then adjust lowest VR of “FBT” to set background at 1 +/- 0.2 F/L ; 2).adjust “ R,B “ bias to: x =0.283±0.003; y =0.297± 0.003 .	x =0.283±0.005 y =0.297±0.005
b). 6500°K / Su65 : Background White Balance.	*Mode 13: 1280 x 1024. Pattern: 11(Black pattern). *Brightness: 95; Contrast: max.. *Select ”Color” Icon. R G B Select 6500°K / Su65: 1).R,G,B bias : set at 107 (Samsung), 2). adjust “ R,B “ bias to: x =0.300 ±0.004, y =0.300 ±0.004.	.
c). 5000°K / Su50 : Background White Balance.	*Mode 13: 1280 x 1024. Pattern: 11(Black pattern). *Brightness: 95; Contrast: max. *Select ”Color” Icon. R G B Select 5000°K /Su50: 1).R,G,B bias : set at 107 (Samsung), 2).adjust “ R,B “ bias to: x =0.310 ±0.004, y =0.310 ±0.004.	

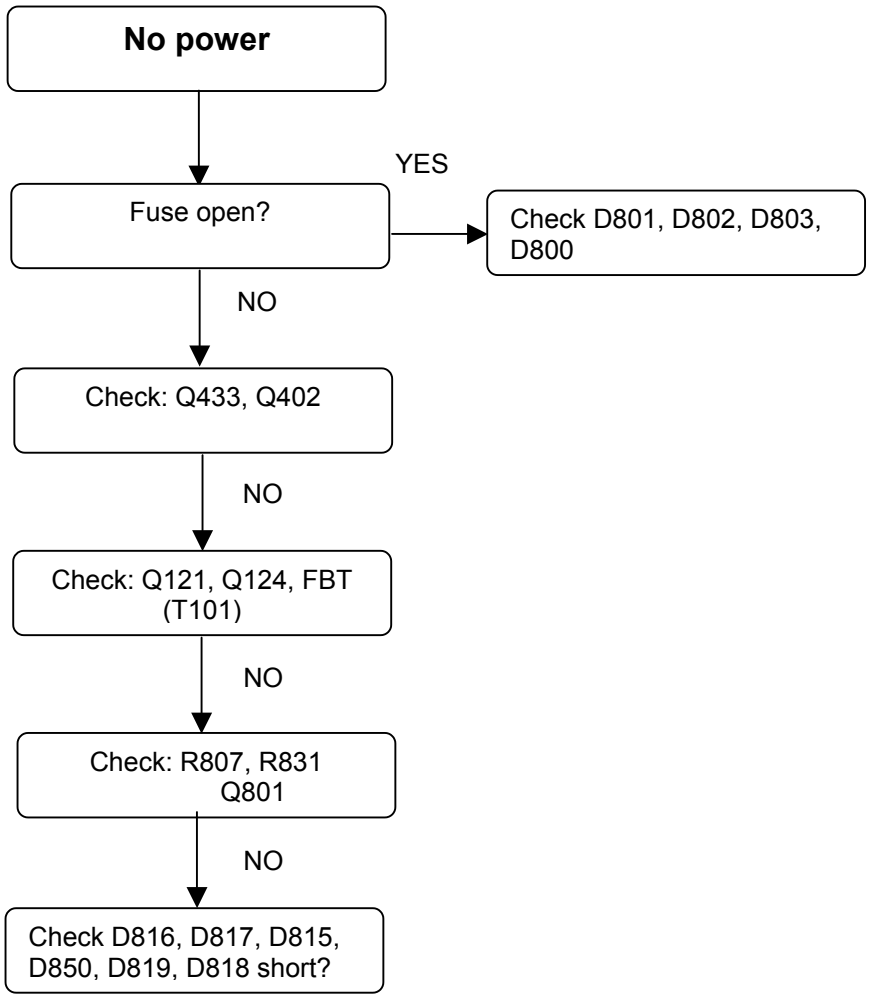
d). 9300°K / Su93 Gain Adjustment.	*Mode 13: 1280 x 1024, 79.975K / 75 HZ. Pattern: x 5 [62(w) x 58(h) mm] White block. *Adjust brightness: 0.08 + /- 0.01 F/L Contrast: max.  *Select ”Color” Icon. Select 9300°K / Su93: 1)Switch off ”R,B” signal and display ”Green” signal. 2)adjust “Green” Gain to 30.5+/-0.3FL for 9300K, and 61 +/- 0.3 FL for Sup93(high brightness), then adjust “ R,B” Gain to x=0.283 ±0.01, y =0.297 ±0.01; Y (9300K): 41 +/- 1FL Y (Sup93): 83 +/- 1 F/L. (Samsung)	x=0.283 ±0.01 y=0.297 ±0.01 Normal brightness (9300K) Y: 41 +/- 2 FL (Samsung). High brightness (Sup93) Y: 83 +/- 2 FL * Test point: CRT center.
e).6500°K /Su65 Gain Adjustment.	*Mode 13: 1280 x 1024, 79.975K / 75 HZ. Pattern: x 5 [62(w) x 58(h) mm] White block. *Adjust brightness: 0.08 + /- 0.01 F/L  Contrast: max. *Select ”Color” Icon. Select 6500°K / Su65: 1)Switch off ”R,B” signal and display ”Green” signal. 2)adjust “Green” Gain to 30.5+/-0.3FL for 6500K, and 50 +/- 0.3 FL for Sup65(high brightness), then adjust “ R,B” Gain to x=0.313 ±0.01, y =0.329 ±0.01; Y (6500K): 41 +/- 1FL Y (Sup65): 70 +/- 1 F/L.	x=0.313 ±0.01 y=0.329 ±0.01 Normal brightness (6500K) Y: 41 +/- 2 FL High brightness (Sup65) Y: 70 +/- 2 FL Reference only * Test point: CRT center.

f).5000°K / Su50 Gain Adjustment.	*Mode 13: 1280 x 1024, 79.975K / 75 HZ. Pattern: x 5 [62(w) x 58(h) mm] White block. *Adjust brightness: 0.08 + /- 0.01 F/L Contrast: max.  *Select "Color" Icon. Select 9300°K / Su93: 1)Switch off "R,B" signal and display "Green" signal. 2)adjust "Green" Gain to 30.5+/-0.3FL for 9300K, and 61 +/- 0.3 FL for Sup93(high brightness), then adjust " R,B" Gain to x=0.346 ±0.01, y =0.359 ±0.01; Y (5000K): 41 +/- 1FL Y(Sup50): 70 +/- 1 F/L.	x=0.346 ±0.01 y=0.359 ±0.01 Normal brightness (5000K) Y: 41 +/- 2 FL High brightness (Sup50) Y: 70 +/- 2 FL * Test point: CRT center.
(12-1) Focus Adjustment. (12-2) Vert. Focus	-1a.*Mode 13: 1280 x 1024. *Pattern: Nokia focus Pattern. *Brightness: 0.08FL; Contrast: Max. -1b Adjust focus 1 & 2 on T101(FBT) to get the Best overall focus. -2. V F set at 75.	All the character "me" have to be very Clearly to see.(and so does at reverse Pattern.).
(13) ABL Adjustment. (9300°K. Only)	*Mode 13: 1280 x 1024, 75 HZ. *Brightness: center Contrast: max. *Pattern: Pattern 41 (Full White). Adjust ABL VR(R167) to 29 ± 0.5 F/L.	1. Color: 9300 °K, only. 2. Pattern: 27.5~29. FL (Full White).

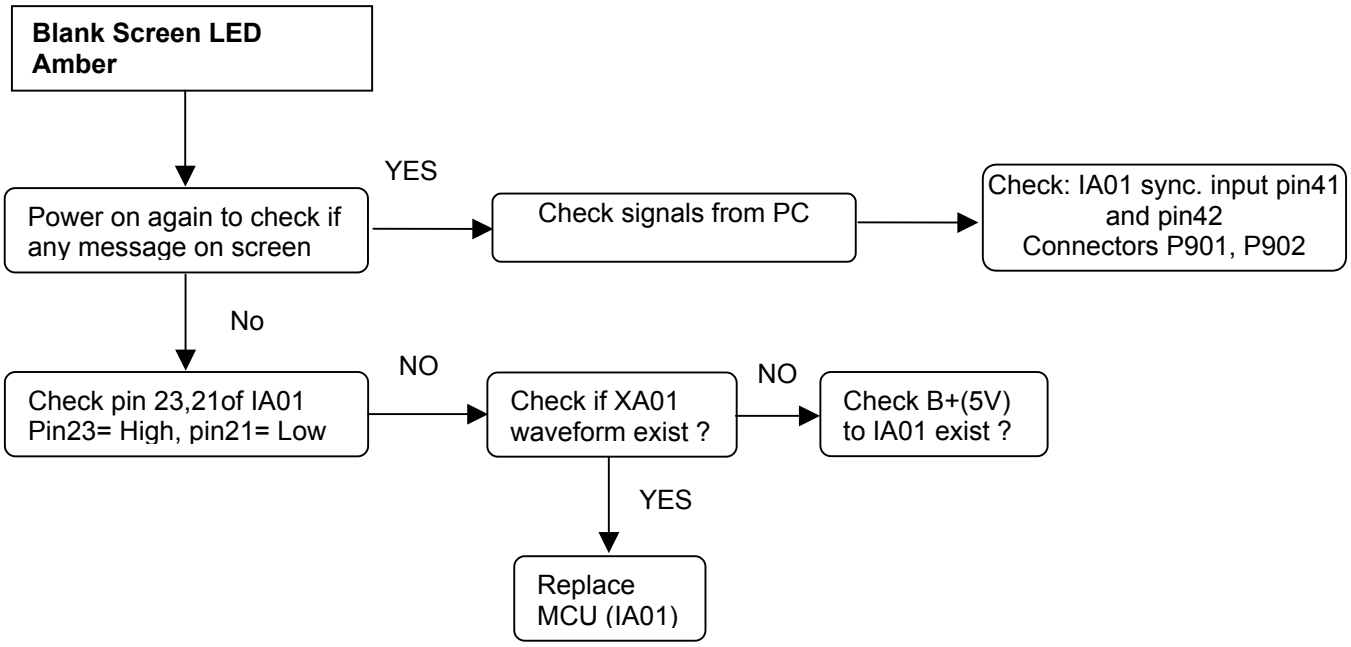
Item.	Alignment description.	Alignment Specification.(Refer spec.)
(12).Convergence Adjustment.	* Adjust 4 / 6 poles around CRT neck and VRS on top of Deflection Yoke if necessary. a = Nominal HEIGHT. b = Nominal WIDTH. 	Center: ≦0.15 mm. In-circle: ≦0.25 mm. Out -circle: ≦0.38 mm.
(13).Moiré (Adjustment.) set up.	*Mode: 1280 x 1024. 75HZ, Full White pattern. 1) H Moiré: set at 0, V Moiré: set at 25 (for each preset mode) * ITC: Samsung M46QCK761X123 (TCO/MDT) 2). Check : a) Mode 10: 1024 x 768; b) Mode 8 : 800 x 600 ; c) Mode 1 : 640 x 480.	Brightness at 15 FL: Moiré: not visible.
(14). OSD Times out.		Set at 20 sec.
(15). Language set up.		Set “English “as default.
(16).Zoom setting.		Press recall to set at center.
(17) Key setting.		preset mode (set finish) set at : a). “HR” Icon: off. b). “KEY” mark: on. .

8. Troubleshooting Flow Chart

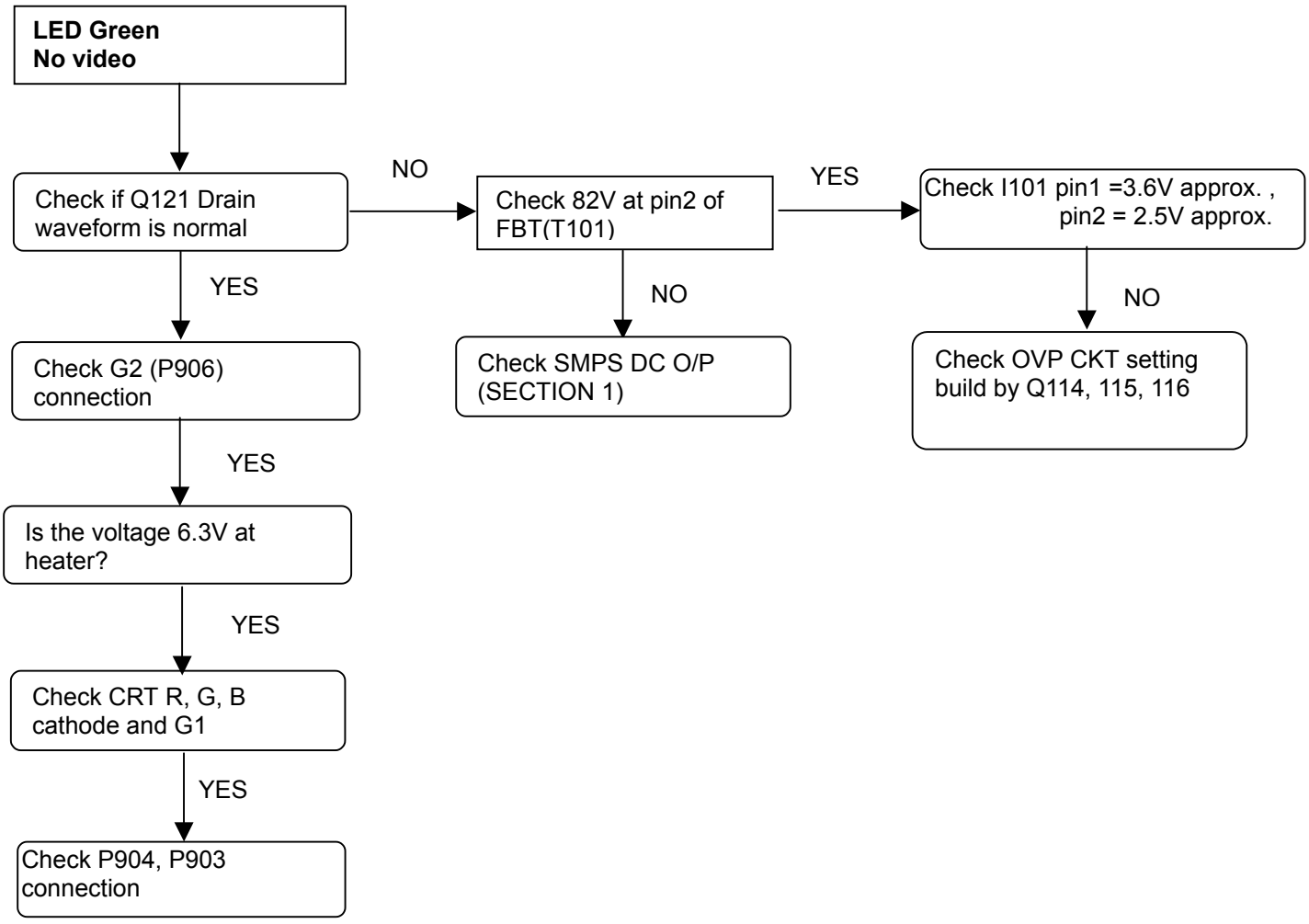
SECTION 1



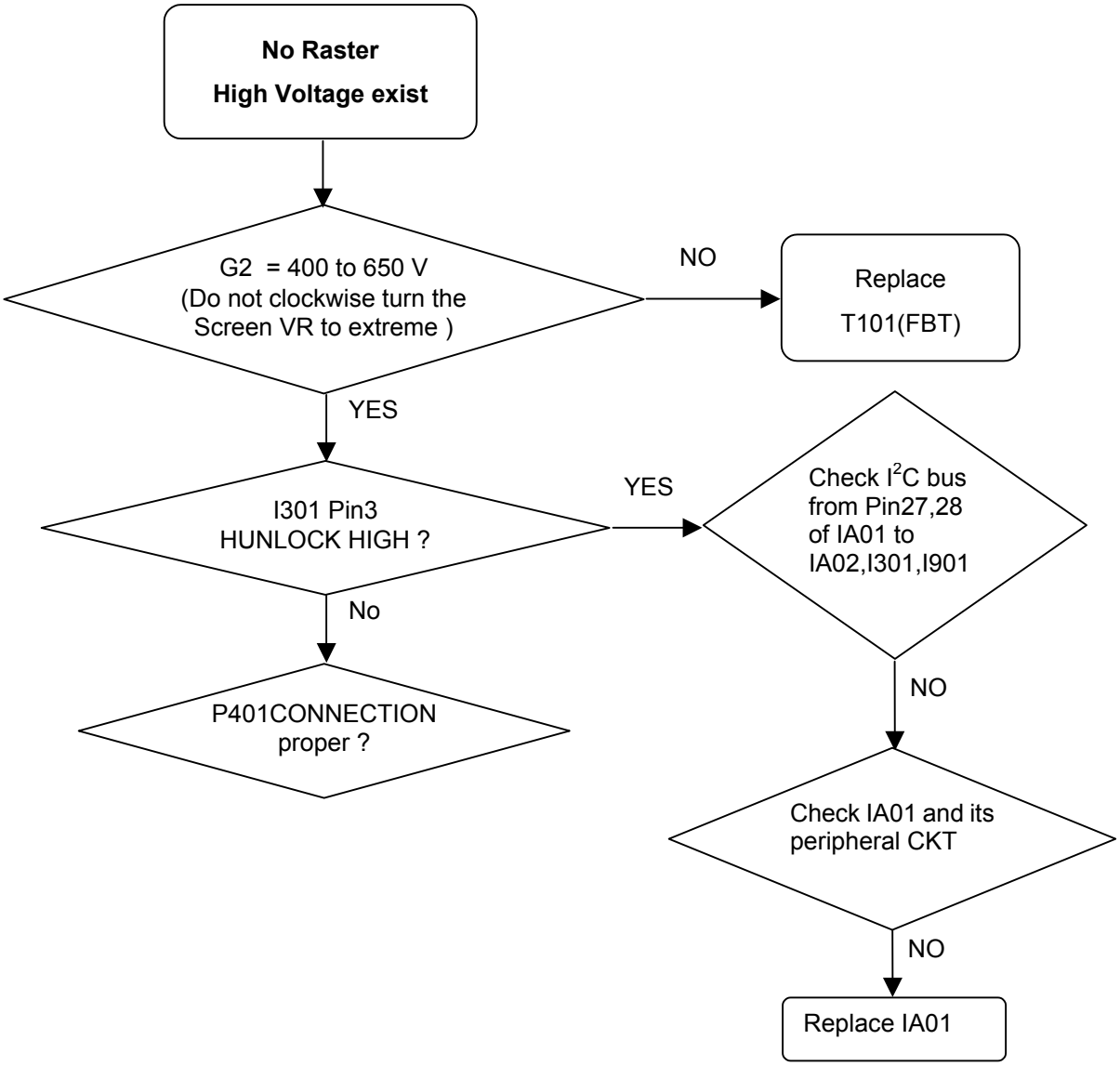
SECTION 2

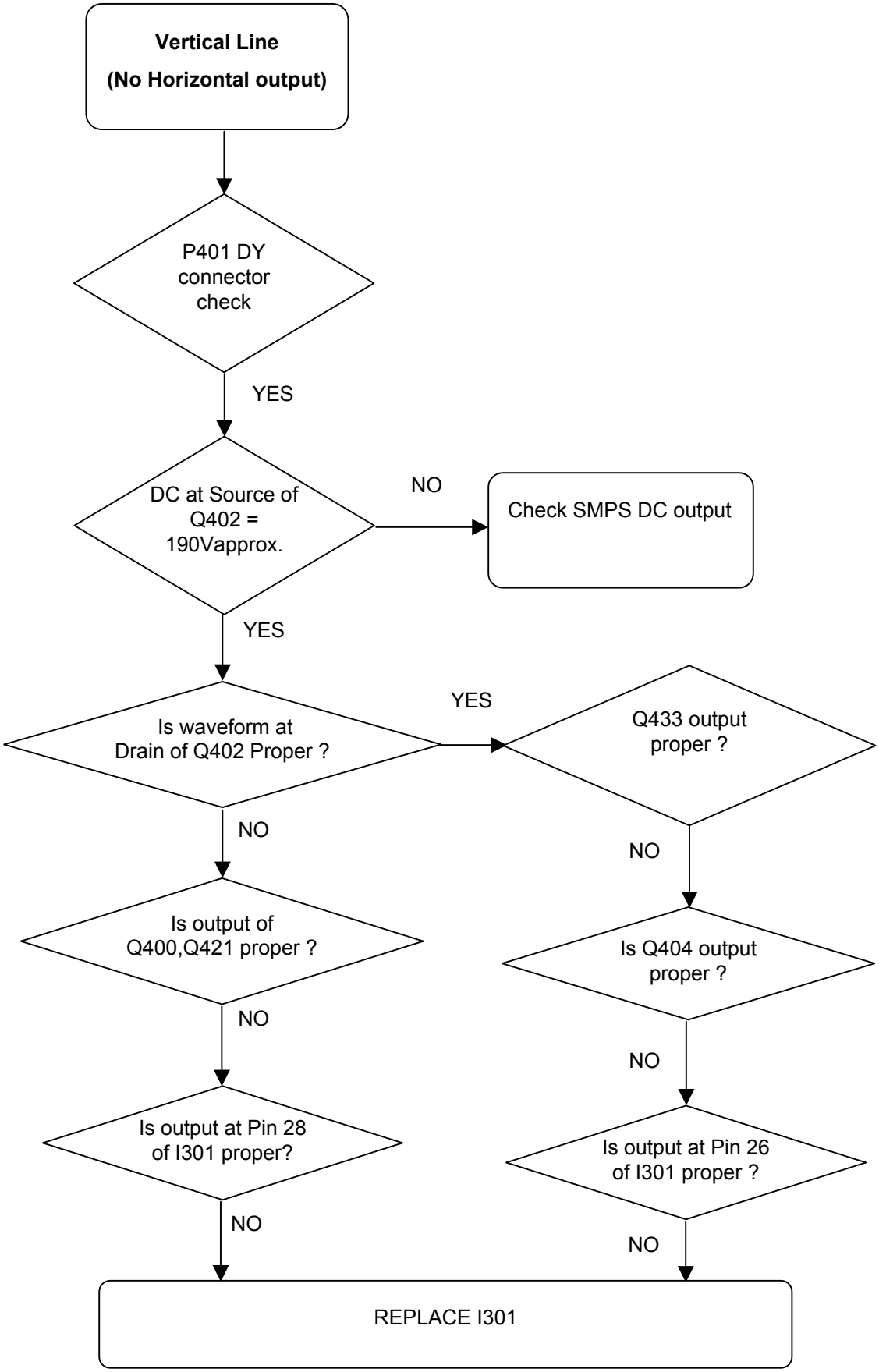

Blank Screen LED Amber
Power on again to check if any message on screen
YES
Check signals from PC
Check: IA01 sync. input pin41 and pin42 Connectors P901, P902
No
Check pin 23,21of IA01 Pin23= High, pin21= Low
NO
Check if XA01 waveform exist ?
NO
Check B+(5V) to IA01 exist ?
YES
Replace MCU (IA01)

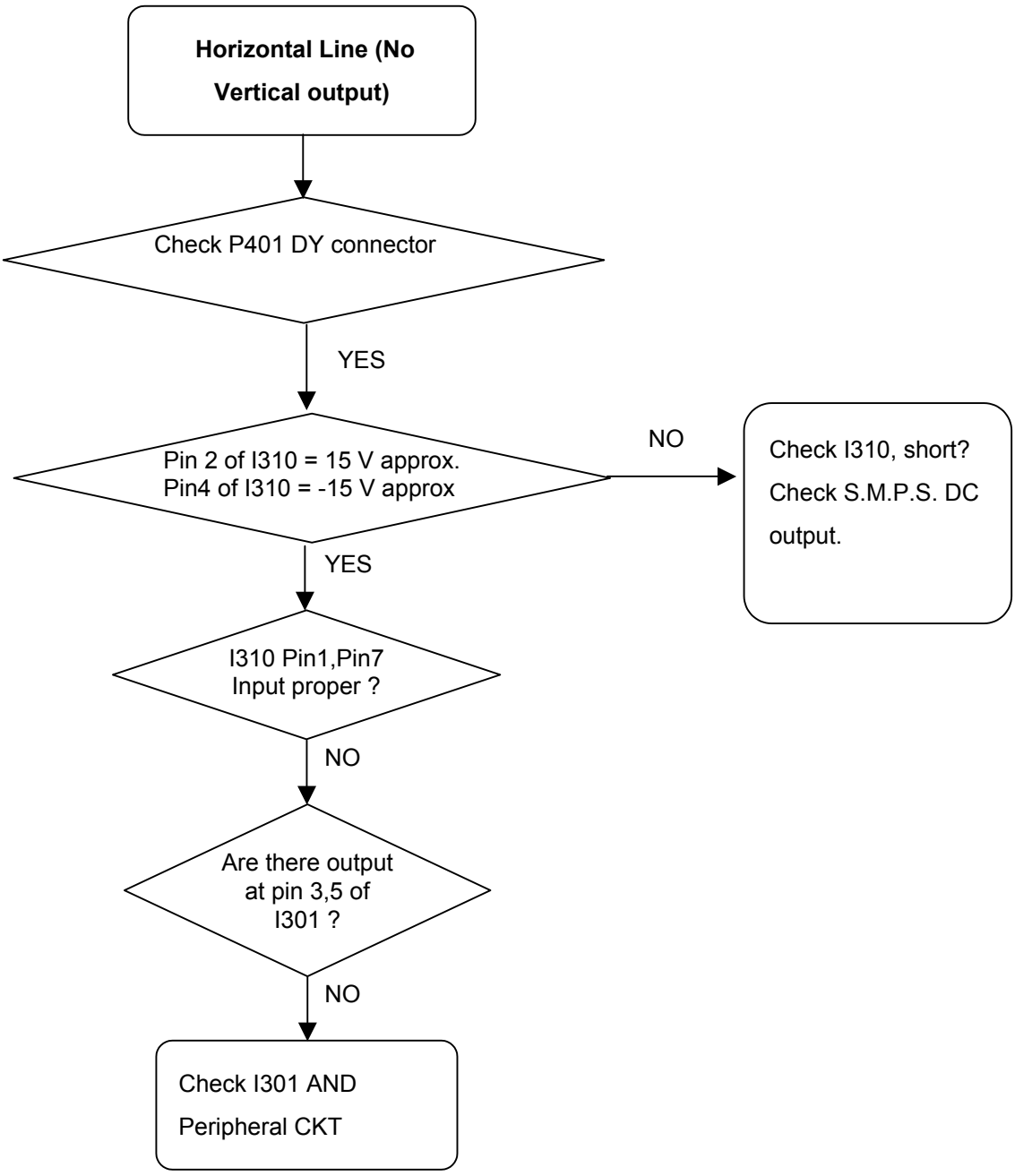
SECTION 3


LED Green
No video
Check if Q121 Drain waveform is normal
NO
Check 82V at pin2 of FBT(T101)
YES
Check I101 pin1 =3.6V approx. , pin2 = 2.5V approx.
YES
NO
NO
Check G2 (P906) connection
Check SMPS DC O/P (SECTION 1)
Check OVP CKT setting build by Q114, 115, 116
YES
Is the voltage 6.3V at heater?
YES
Check CRT R, G, B cathode and G1
YES
Check P904, P903 connection

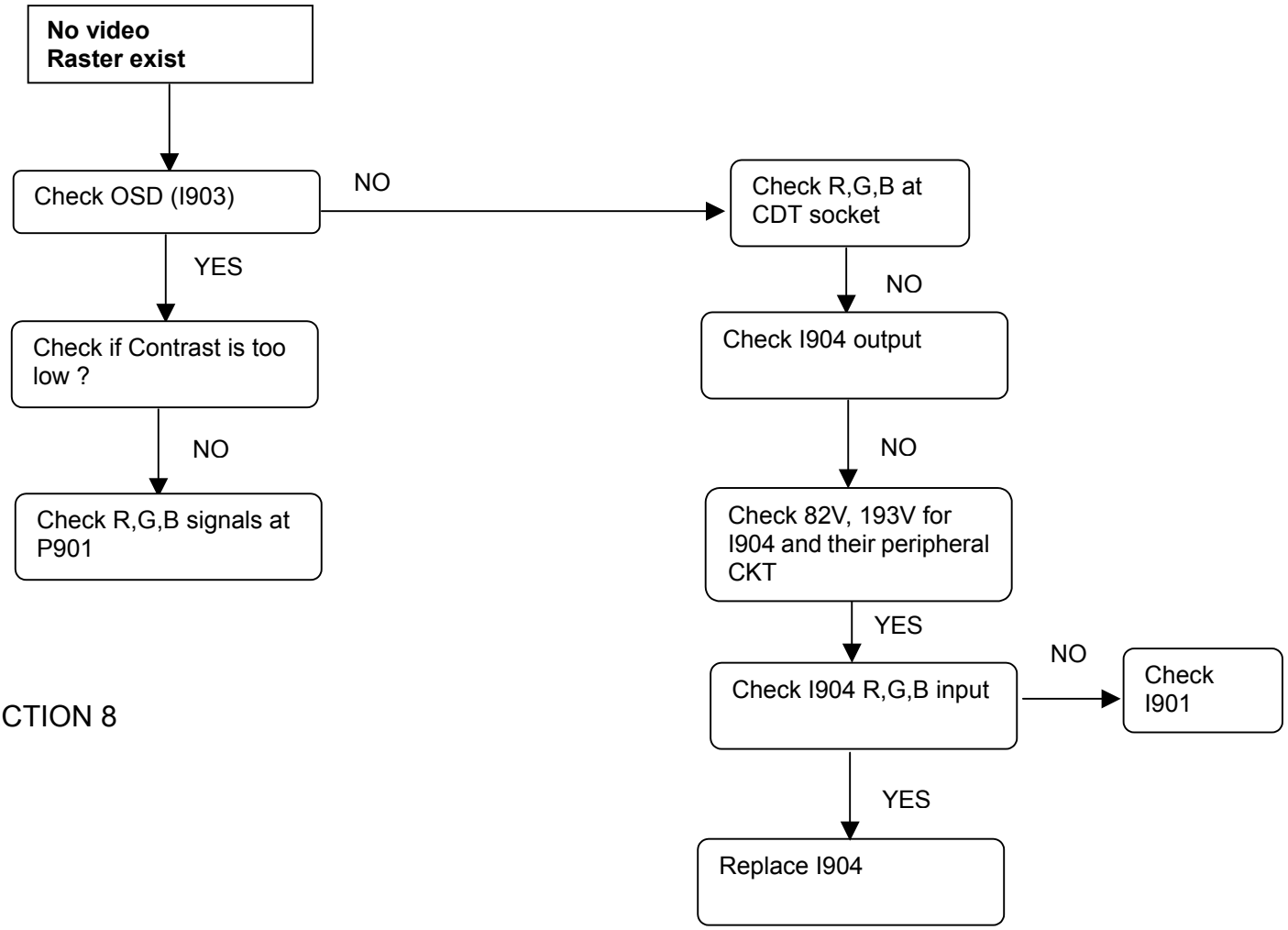
SECTION 4


No Raster
High Voltage exist
G2 = 400 to 650 V
(Do not clockwise turn the
Screen VR to extreme)
NO
Replace
T101(FBT)
YES
I301 Pin3
HUNLOCK HIGH ?
YES
Check I2C bus
from Pin27,28
of IA01 to
IA02,I301,I901
No
P401CONNECTION
proper ?
NO
Check IA01 and its
peripheral CKT
NO
Replace IA01

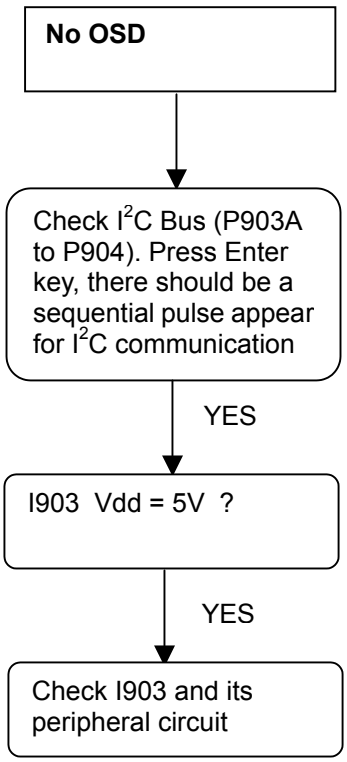

Vertical Line
(No Horizontal output)
P401 DY connector check
YES
DC at Source of Q402 = 190Vapprox.
NO
Check SMPS DC output
YES
Is waveform at Drain of Q402 Proper ?
YES
Q433 output proper ?
NO
NO
Is output of Q400,Q421 proper ?
Is Q404 output proper ?
NO
NO
Is output at Pin 28 of I301 proper?
Is output at Pin 26 of I301 proper ?
NO
NO
REPLACE I301


Horizontal Line (No Vertical output)
Check P401 DY connector
YES
Pin 2 of I310 = 15 V approx.
Pin4 of I310 = -15 V approx
NO
Check I310, short?
Check S.M.P.S. DC output.
YES
I310 Pin1,Pin7 Input proper ?
NO
Are there output at pin 3,5 of I301 ?
NO
Check I301 AND Peripheral CKT

SECTION 7



SECTION 8



9. Recommended Spare Parts List

LOCATION	VIEWSONIC P/N	PART NO.	DESCRIPTION	LEAD TIME
PCB ASSEMBLY:				
U0334			Main Board. PWB-0334B.	3 WEEKS
U0414	B-CRT-0217-0093	5053104140	Video Board. PWB-0414.	3 WEEKS
U0488		5053104880	Control Board. PWB-0488.	3 WEEKS
CABINETS:				
6V04	PL-PD-0714-0057	5642022700	Foot Pad	3 WEEKS
6V01	M-MS-0808-8291	5641406010	Tilt Frame	3 WEEKS
6V03	PL-PS-0715-0170	5641409603	Base	3 WEEKS
6V02	PL-TB-0717-0111	5641406110	Swivel Dish	3 WEEKS
6V05	M-CV-0830-2334	5642314903	USB Cover	3 WEEKS
		5095854066	Base Assembly	3 WEEKS
6F01	C-FP-0301-0899	5642289300	F/C	3 WEEKS
6B01	C-BC-0302-0439	5642271022	B/C	3 WEEKS
6F03	PL-FK-0709-0109	5642847400	Function Key	3 WEEKS
6F02	PL-BT-0706-0111	5642847300	Power Button	3 WEEKS
6F01M	M-MS-0808-7575	5642417700	Logo	3 WEEKS
ACCESSORIES:				
P901A	A-VC-0101-0246	5057415217	Signal Cable. BLK. L:1.8m	3 WEEKS
P801A	A-PC-0106-0169	5056705900	Power Cord. BLK. L:1.8m	3 WEEKS
Y011	A-CD-A90F+	5030033506	User's Guide (CD-ROM). A90f+.	3 WEEKS
PACKING MATERIAL:				
1P01	P-BX-0601-0729	9512822656	Carton Box	3 WEEKS
1P02	P-FM-0602-0702	9522821356	EPS (Top)	3 WEEKS
1P03	P-FM-0602-0701	9522821256	EPS (Bottom)	3 WEEKS
ELECTRONIC COMPONENTS:				
D404	E-D-0403-0813	6611018703	DIODE. BY329X-1500.	8 WEEKS
D404	E-D-0403-1472	6611013301	DIODE. FMP-G2FS.	8 WEEKS
D800-D803	E-D-0403-1852	6611029554	DIODE. IN5406-M	6 WEEKS
D804/D806	E-D-0403-1839	6611012835	DIODE. INU41-TP3	6 WEEKS
D819/D816	E-D-0403-0612	6611032341	DIODE 2NU41	6 WEEKS
D817/D818	E-D-0403-1842	6611015244	DIODE UF5402	6 WEEKS
D826	E-D-0403-1942	6611011333	ZENER IN5252B 23.6-24.7V.	6 WEEKS 6 WEEKS
D826	E-D-0403-0649	6615023331	ZENER IN5252B 23.6-24.7V. ZENER.HZ24-2	6 WEEKS 6 WEEKS
F801	E-FS-0410-0059	5054431539	FUSE. T.250V/3.15A FUSE.	6 WEEKS
I101/I803	E-IC-0401-0277	6644063111	IC.UC3842BN	6 WEEKS
I301	E-IC-0401-2450	6644076308	IC.TDA9116	8 WEEKS
I310	E-IC-0401-0005	6644076000	IC.TDA8172	8 WEEKS
I802	E-IC-0401-2447	6640003800	IC.REGULATOR LM117T5	6 WEEKS
I804/I805	E-IC-0401-2449	6642002904	IC.PHOTO TLP721F	6 WEEKS
I807	E-IC-0401-2449	6642002904	IC.PHOTO TLP721F	6 WEEKS
I808	E-IC-0401-2448	6640007705	IC.REGULATOR A431LP	6 WEEKS
I871	E-IC-0401-2306	6640002705	IC.REGULATOR L7812	6 WEEKS
IA01	E-IC-0401-2416	6647008204	IC.MCU NT68F62U	6 WEEKS
IA02	E-IC-0401-1888	6647051822	IC.24LC08B/P DIP-8	6 WEEKS
Q121	E-Q-0402-1076	6626003202	TR.2SK2843 1000V 6A	6 WEEKS
Q122	E-Q-0402-1485	6621040830	TR.BC639	6 WEEKS
Q124	E-Q-0402-1415	6626004000	TR.2SK2161	6 WEEKS
Q125	E-Q-0402-1489	6626006130	TR.BSN254A 250V 1.2A	8 WEEKS
Q402	E-Q-0402-1447	6626005700	TR.2SJ449	8 WEEKS
Q402	E-Q-0402-1512	6626005702	TR.2SJ512	8 WEEKS
Q404	E-Q-0402-1430	6626000702	TR.IRFS730A	8 WEEKS 8 WEEKS
Q404	E-Q-0402-1411	6626000701	TR.2SK2679	8 WEEKS 8 WEEKS

Q410/Q412	E-Q-0402-1415	6626004000	TR.2SK2161	6 WEEKS
Q414/Q416	E-Q-0402-1415	6626004000	TR.2SK2161	6 WEEKS
Q423	E-Q-0402-1486	6622018000	TR.2SD882Q	6 WEEKS
Q424	E-Q-0402-1487	6624001300	TR.2SB772	6 WEEKS
Q433	E-Q-0402-1463	6621002801	TR.BU4525AX	8 WEEKS
Q801	E-Q-0402-1488	6626003208	TR.2SK2648-01 800V 9A	8 WEEKS
Q806	E-Q-0402-1487	6624001300	TR.2SB772	6 WEEKS
Q810	E-Q-0402-1084	6621040730	TR.MPSA44 500V 0.6A	6 WEEKS
Q866	E-Q-0402-1487	6624001300	TR.2SB772	6 WEEKS
R121/R121A	E-R-0405-6788	5142415590	1.5Mohm 1/2W	3 WEEKS
R100/R100A	E-R-0405-6751	5130420206	2Kohm 2W METAL	3 WEEKS
R157		513043903	39ohm 2W METAL	3 WEEKS
R163	E-R-0405-6784	5130322203	2.2Kohm 1W METAL	3 WEEKS
R164		5130333403	330Kohm 1W METAL	3 WEEKS
R167	E-R-0405-6789	5162162220	22Kohm VR F5X5	3 WEEKS
R176	E-R-0405-6790	5162162820	100Kohm VR F5X5	3 WEEKS
R319A	E-R-0405-7061	5162162880	100Kohm VR F5X2.5B	3 WEEKS
R384	E-R-0405-6575	5130568903	6.8ohm 3W METAL	3 WEEKS
R386	E-R-0405-6786	5130456903	5.6ohm 2W METAL	3 WEEKS
R389	E-R-0405-6701	5130418903	1.8ohm 2W METAL	3 WEEKS
R402		5130547003	47ohm 3W METAL	3 WEEKS
R415		5130515002	15ohm 3W METAL	3 WEEKS
R454	E-R-0405-6791	5162561980	10Kohm VR.T5X2.5	3 WEEKS
R807	E-R-0405-6750	5130324803	0.24ohm 1W METAL	3 WEEKS
R831	E-R-0405-6752	5130420803	0.2ohm 2W METAL	3 WEEKS
T101(RA)	E-FBT-0406-0242	5062628031	FBT.TFB-280T-31 FBT	4 WEEKS
T101(RB)	E-FBT-0406-0243	5062628032	FBT.TFB-280L-31 FBT	4 WEEKS
T801	E-T-0408-0451	5061369700	POWER TRANSFORMER TPW-697	4 WEEKS
V901(RA)		5051286346	CDT.M46QCK761X123(TCO/MDT)	8 WEEKS
I901	E-IC-0401-1264	6644076905	IC.M52743BSP (VIDEO PRE-AMP)	8 WEEKS
I903	E-IC-0401-2068	6646025603	IC.MTV038N20-17 OSD IC	8 WEEKS
I904	E-IC-0401-2388	6644009606	IC.LM2435 T (VIDEO AMP)	8 WEEKS
V901A	M-MS-0808-7346	5056306721	SOCKET 0330-7700-44(CDT)	3 WEEKS
SA01-SA07	M-SW-0815-0203	5054512980	SCWITCH SKHHPM2520 PL	3 WEEKS

10. Electrical Parts List

WARNING: Replacement parts that have special characteristics important to safety should be replaced only with types identical to those in the original circuit or specified in the parts list. Before replacing any of these components, read carefully the product safety precautions. Do not degrade the safety of the display through improper servicing

ABBREVIATIONS:

10.ELECTRICAL PARTS LIST			
LOCATION	VIEWSONIC P/N	PART NO.	DESCRIPTION
CAPACITOR:			
C100	E-C-0404-4749	5248422091	C.CE 2KV 22PF J
C101	E-C-0404-1339	5234347191	C.CE 2KV 470PF K
C103	E-C-0404-4373	5213610091	C.EL 50V 1UF M
C104	E-C-0404-4759	5214701091	C.EL 450V 1UF M
C105	E-C-0404-4132	5275122491	C.ME 63 V 0.22MF J
C106	E-C-0404-3352	5276110491	C.ME 100V 0.1UF J
C107	E-C-0404-4377	5205647991	C.EL 50V 4.7UF M
C108	E-C-0404-4374	5213601091	C.EL 50V 1UF M
C109	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C110	E-C-0404-4140	5231310291	C.CE 50V 1000PF K
C111	E-C-0404-4020	5275115491	C.ME 63V 0.15UF J
C112	E-C-0404-4771	5221122391	C.PO 50V 22000PF J
C114	E-C-0404-4761	5271133391	C.ME 100V 33000PF J
C115	E-C-0404-3352	5276110491	C.ME 100V 0.1UF J
C116	E-C-0404-4136	5213622091	C.EL 50V 22UF M
C117	E-C-0404-4761	5271133391	C.ME 100V 33000PF J
C120	E-C-0404-4136	5213622091	C.EL 50V 22UF M
C121	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C122	E-C-0404-4374	5213601091	C.EL 50V 1UF M
C126	E-C-0404-4346	5232322291	C.CE 500V 2200PF K
C127	E-C-0404-4131	5232310291	C.CE 500V 1000LF K
C128	E-C-0404-4770	5223510201	C.PO 400V 1000PF K
C129	E-C-0404-4368	5213447091	C.EL 25V 47UF M
C130	E-C-0404-4760	5271110501	C.ME 100V 1UF J 35K-Hz

C131	E-C-0404-4333	5233310291	C.CE 1KV 1000PF K
C132	E-C-0404-4774	5223447301	C.P0250V 47000PF J5KHz
C133	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C134	E-C-0404-4373	5213610091	C.EL 50V 10UF M
C135	E-C-0404-4364	5214433012	C.EL 250V 33UF M
C136	E-C-0404-4134	5213633091	C.EL 50V 33UF M
C137	E-C-0404-4760	5271110501	C.ME 100V 1UF J
C138	E-C-0404-4773	5223015200	C.PO 800V 1500PF J
C139	E-C-0404-4755	5214019612	C.EL 100V 330UF M
C301	E-C-0404-3352	5276110491	C.ME 100V 0.1UF J
C302	E-C-0404-1004	5221168291	C.PO 50V 6800PF J
C303	E-C-0404-4351	5247082191	C.CE 50V 820PF J
C304	E-C-0404-4392	5275115391	C.ME 63V 15000PF J
C305	E-C-0404-4377	5213647991	C.EL 50V 4.7UF M
C306	E-C-0404-4374	5213601091	C.EL 50V 1UF M
C307	E-C-0404-4351	5247082191	C.CE 50V 820PF J
C308	E-C-0404-4765	5227518291	C.PO 100V 1800PF G
C309	E-C-0404-1119	5247022191	C.CE 50V 220PF J
C310	E-C-0404-4391	5275147491	C.ME 63V 0.47MF J
C311	E-C-0404-1397	5247039091	C.CE 50V 39PF J
C312	E-C-0404-4132	5275122491	C.ME 63V 0.22MF J
C313	E-C-0404-4368	5213447091	C.EL 25V 47UF M
C313A	E-C-0404-4344	5242212191	C.CE 50V 120PF J
C314	E-C-0404-4344	5242212191	C.CE 50V 120PF J
C315	E-C-0404-1118	5247010191	C.CE 50V 100PF J
C316	E-C-0404-1118	5247010191	C.CE 50V 100PF J
C317	E-C-0404-4368	5213447091	C.EL 25V 47UF M
C318	E-C-0404-4358	5213322191	C.EL 16V 220UF M
C319	E-C-0404-4131	5232310291	C.CE 5 00V 1000PF K
C320	E-C-0404-4389	5275110491	C.ME 63V 0.1MF J
C321	E-C-0404-4389	5275110491	C.ME 63V 0.1MF J
C322	E-C-0404-4131	5232310291	C.CE 50V 1000PF J
C325	E-C-0404-4374	5213601091	C.EL 50V 1UF M
C382	E-C-0404-2896	5213310191	C.EL 16V 100UF M
C382A	E-C-0404-4346	5231322291	C.CE 50V 2200PF K
C383		5273433291	C.PO 100V 3300PF J
C384	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C385	E-C-0404-4357	5213310212	C.EL 16V 1000UF M
C386	E-C-0404-4357	5213310212	C.EL 16V 1000UF M
C386A	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C387	E-C-0404-4379	5277127401	C.ME 100V 0.27MF J
C388	E-C-0404-3451	5213610191	C.EL 50V 100UF M
C390	E-C-0404-1287	5233315191	C.CE1KV 150PF K
C400	E-C-0404-4768	5223433301	C.PO 250V 33000PF J
C401	E-C-0404-4368	5213447091	C.EL 25 V 47UF M
C401A	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C402	E-C-0404-0226	5206410112	C.EL 250V 100UF M
C402A	E-C-0404-4337	5232310301	C.CE 500V 10000PF K
C403	E-C-0404-4767	5223422301	C.PO 250V 22000PF J
C403A	E-C-0404-3909	5233318191	C.CE 1KV 180PF K
C404	E-C-0404-4772	5223622201	C.PO 630V 2200PF J
C405	E-C-0404-4752	5248468091	C.CE 2KV 68PF J
C406	E-C-0404-4766	5223751200	C.PO 1600V 5100PF J
C406A	E-L-0407-1389	5061105400	C.BE BRH 5X4X1.5
C406E	M-MS-0808-7918	5056208100	C.EYELET 1.6
C407	E-C-0404-4391	5275147491	C.ME 63V 0.47UF J
C409	E-C-0404-4414	5223647201	C.PO 630V 4700PF J
C410	E-C-0404-4373	5213610091	C.EL 50V 10UF M
C411		5234547291	C.CE 2KV 4700PF M
C411A	E-C-0404-4131	5232310291	C.CE 500V 1000PF K
C412	E-C-0404-4750	5234333191	C.CE 2KV 330PF K
C413	E-C-0404-4756	5214222991	C.EL 160V 2.2UF M
C414	E-C-0404-4363	5206422991	C.EL 250V 2.2UF M
C415	E-C-0404-4365	5214019512	C.EL 25V 1000UF M
C416	E-C-0404-4387	5270207401	C.ME 400V 0.22UF J

C419	E-C-0404-4387	5270207401	C.ME 400V 0.22UF J
C420	E-C-0404-4762	5270356402	C.ME 250V 0.56UF J
C421	E-C-0404-4763	5270312502	C.ME 250V 1.2UF J
C422	E-C-0404-4330	5213410191	C.EL 25V 100UF M
C423	E-C-0404-4235	5270207701	C.ME 400V 0.1 UF J
C454	E-C-0404-4363	5214422991	C.EL 250V 2.2UF M
C455	E-C-0404-4363	5214422991	C.EL 250V 2.2UF M
C471	E-C-0404-2896	5213310191	C.EL 16V 100UF M
C801	E-C-0404-4754	5214110091	C.EL 100V 10UF M
C802	E-C-0404-4336	5230105501	C.CE 400V 4700UF M
C803	E-C-0404-4336	5230105501	C.CE 400V 4700UF M
C804	E-C-0404-4826	5270112601	C.ME 275V 0.22UF M
C805	E-C-0404-4337	5232310301	C.CE 500V 0.01UF K
C806	E-C-0404-4337	5232310301	C.CE 500V 0.01UF K
C809	E-C-0404-4372	5210313400	C.EL 400V 220UF M
C809E	M-MS-0808-7919	5056208101	C.EYELET 2.4X3
C811	E-C-0404-4136	5213622091	C.EL 50V 22UF M
C812	E-C-0404-4136	5213622091	C.EL 50V 22UF M
C813	E-C-0404-4772	5223622201	C.PO 630V 2200PF J
C814	E-C-0404-4136	5213622091	C.EL 50V 22UF M
C815	E-C-0404-4330	5213410191	C.EL 25V 100UF M
C816	E-C-0404-4373	5213610091	C.EL 50V 10UF M
C817	E-C-0404-4328	5214122091	C.EL 100V 22UF M
C818	E-C-0404-4346	5231322291	C.CE 50V 2200PF K
C819	E-C-0404-1030	5221122291	C.PO 50V 2200PF J
C820	E-C-0404-4392	5275115391	C.ME 63V 15000PF J
C821	E-C-0404-4330	5213410191	C.EL 25V 100UF M
C822	E-C-0404-4136	5213622091	C.EL 50V 22UF M
C823	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C824	E-C-0404-1871	5233310191	C.CE 1KV 100PF K
C825	E-C-0404-0226	5216410101	C.EL 250V 100UF M
C826	E-C-0404-3909	5233318191	C.CE 1KV 180PF K
C827	E-C-0404-4355	5214019812	C.EL 100V 220UF M
C828	E-C-0404-4286	5213647091	C.EL 50V 47UF M
C829	E-C-0404-4365	5213410212	C.EL 25V 1000UF M
C830	E-C-0404-3909	5233318191	C.CE 1KV 180PF K
C831	E-C-0404-2270	5205347112	C.EL 16V 470UF M
C832	E-C-0404-3603	5234310101	C.CE 2KV 100PF K
C833	E-C-0404-4758	5214019791	C.EL 25V 330UF M
C834	E-C-0404-4761	5271133391	C.ME 100V 33000PF J
C835	E-C-0404-3909	5233318191	C.CE 1KV 180PF K
C836	E-C-0404-4357	5213310212	C.EL 16V 1000UF M
C837	E-C-0404-4358	5213322191	C.EL 16V 220UF M
C838	E-C-0404-4368	5213447091	C.EL 25V 47UF M
C840	E-C-0404-4355	5213222191	C.EL 10V 220UF M
C841	E-C-0404-4357	5213310212	C.EL 16V 1000UF M
C844	E-C-0404-4746	5205622091	C.EL 50V 22UF M
C845	E-C-0404-4368	5213447091	C.EL 25V 47UF M
C846	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C847	E-C-0404-2139	5232310191	C.CE 500V 100PF K
C848	E-C-0404-3909	5233318191	C.CE 1KV 180PF K
C849	E-C-0404-4373	5213610091	C.EL 50V 10UF M
C850	E-C-0404-4336	5230105501	C.CE AC400V 4700PF M
C851	E-C-0404-4336	5230105501	C.CE AC400V 4700PF M
C853	E-C-0404-1287	5233315191	C.CE 1KV 150PF K
C870	E-C-0404-4361	5216410001	C.EL 250V 10UF M
C870A	E-C-0404-4333	5233310291	C.CE 1KV 1000PF K
C872	E-C-0404-4367	5214005001	C.EL 25V 470UF M
C875	E-C-0404-2896	5213310191	C.EL 16V 100UF M
C875A	E-C-0404-4140	5231310291	C.CE 50V 1000PF K
C876	E-C-0404-4357	5213310212	C.EL 16V 1000UF M
C881A	E-C-0404-4748	5234318191	C.CE 2KV 180PF K
C882A	E-C-0404-1171	5234327191	C.CE 2KV 270PF K
C883	E-C-0404-4750	5234333101	C.CE 2KV 330PF K
C886	E-C-0404-3352	5276110491	C.ME 100V 0.1UF J

C886A	E-C-0404-4337	5232310301	C.CE 500V 10000PF K
C877	E-C-0404-4328	5214122091	C.EL 100V 22UF M
CA01	E-C-0404-4360	5213347091	C.EL 16V 47UF M
CA02	E-C-0404-4343	5242210091	C.CE 50V 10PF J
CA03	E-C-0404-4343	5242210091	C.CE 50V 10PF J
CA04	E-C-0404-4344	5242212191	C.CE 50V 120PF J
CA05	E-C-0404-4344	5242212191	C.CE 50V 120PF J
CA06	E-C-0404-4344	5242212191	C.CE 50V 120PF J
CA07	E-C-0404-4375	5213622991	C.EL 50V 2.2UF M
CA08	E-C-0404-4377	5213647991	C.EL 50V 4.7UF M
CA09	E-C-0404-4377	5213647991	C.EL 50V 4.7UF M
CA10	E-C-0404-4285	5213247191	C.EL 10V 470UF M
CA11	E-C-0404-4344	5242212191	C.CE 50V 120PF J
CA12	E-C-0404-4140	5231310291	C.CE 50V 1000PF K
CA13	E-C-0404-4347	5231333191	C.CE 50V 330PF K
CA14	E-C-0404-4375	5213622991	C.EL 50V 2.2UF M
CA15	E-C-0404-4377	5213647991	C.EL 50V 4.7UF M
CA16	E-C-0404-4373	5213610091	C.EL 50V 10UF M
CA17	E-C-0404-1118	5242210191	C.CE 50V 100PF J
CA18	E-C-0404-1118	5242210191	C.CE 50V 100PF J
CA19	E-C-0404-1118	5242210191	C.CE 50V 100PF J
CA20	E-C-0404-4131	5232310291	C.CE 500V 1000PF K
CA22	E-C-0404-1118	5242210191	C.CE 50V 100PF J
CA25	E-C-0404-1118	5242210191	C.CE 50V 100PF J
CA26	E-C-0404-1118	5242210191	C.CE 50V 100PF J
CA27	E-C-0404-4140	5231310291	C.CE 50V 1000PF K
LOCATION	VIEWSONIC P/N	PART NO.	DESCRIPTION
DIODE:			
D101	E-D-0403-1853	6611032640	DIODE DIODE RECTIFIER BYV26DGP 800V 1A
D104*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA,RB,RC)
D105*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA,RB,RC)
D108*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA,RB,RC)
D109*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA,RB,RC)
D110A(RA	E-D-0403-1999	6615009336	DIODE ZENER HBZX79C 10
D110A(RB	E-D-0403-2000	6615009337	HZ11A3 TD
D111	E-D-0403-2005	6615012530	DIODE ZENER HZ4A2-TD 3.5-3.7V 5mA 0.5w
D112*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA,RB,RC)
D113*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA,RB,RC)
D114(RA)	E-D-0403-1856	6613002244	DIODE SWITCHING RGP10D-G23
D114(RB)	E-D-0403-1854	6611035644	DIODE SWITCHING RGP10D
D115(RA)	E-D-0403-1856	6613002244	DIODE SWITCHING RGP10D-G23
D115(RB)	E-D-0403-1854	6611035644	DIODE SWITCHING RGP10D
D116*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA,RB,RC)
D118(RA)	E-D-0403-2001	6615009752	DIODE ZENER RD6.8B2-T7
D118(RB)	E-D-0403-1998	6615007234	DIODE ZENER HZ7B1-TD 6.7-7V
D119*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA,RB,RC)
D120*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA,RB,RC)
D121*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA,RB,RC)
D125*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA,RB,RC)
D126		6611027852	DIODE RECTIFIER 31DF4
D127	E-D-0403-1995	6611035643	DIODE SWITCHING RGP10G
D128	E-D-0403-1991	6611019241	DIODE RECTIFIER BYD73G
D301	E-D-0403-1868	6615007834	DIODE ZENER HZ5C1-TD 4.9-5.1V
D310#	E-D-0403-1750	6611007240	DIODE RECTIFIER 1N4002RL(RA,RB,RC,RD)
D401*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75 V 150mA (RA,RB,RC)
D402(RA)	E-D-0403-1999	6615009336	DIODE ZENER BZX79C 10
D402(RB)	E-D-0403-2000	6615009337	DIODE ZENER HZ11A3-TD
D403(RA)	E-D-0403-1988	6611010941	DIODE RECTIFIER BYV99
D403(RB)		6611010951	DIODE RECTIFIER BYV99 TAP52MM
D403(RC)	E-D-0403-1850	6611029302	DIODE RECTIFIER RL4A
D404(RA)	E-D-0403-0813	6611018703	DIODE RECTIFIER BY329X-1500S 1500V 8A
D404(RB)	E-D-0403-1472	6611013301	DIODE RECTIFIER FMP-G2FS
D405	E-D-0403-1834	6611012849	DIODE RECTIFIER RGP10M
D407*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA,RB,RC)

D410	E-D-0403-1752	6611070347	DIODE RECTIFIER SR204
D411			
D477	E-D-0403-1992	6611025643	DIODE SWITCHING RDP10G
D478	E-D-0403-1992	6611025643	DIODE SWITCHING RDP10G
D800(RA)	E-D-0403-1852	6611029554	DIODE RECTIFIER 1N5406-M FORMED
D800(RB)	E-D-0403-1852	6611029555	DIODE RECTIFIER 1N5406-M PREFORMED
D801(RA)	E-D-0403-1852	6611029554	DIODE RECTIFIER 1N5406-M FORMED
D801(RB)	E-D-0403-1852	6611029555	DIODE RECTIFIER 1N5406-M PREFORMED
D802(RA)	E-D-0403-1852	6611029554	DIODE RECTIFIER 1N5406-M FORMED
D802(RB)	E-D-0403-1852	6611029555	DIODE RECTIFIER 1N5406-M PREFORMED
D803(RA)	E-D-0403-1852	6611029554	DIODE RECTIFIER 1N5406-M FORMED
D803(RB)	E-D-0403-1852	6611029555	DIODE RECTIFIER 1N5406-M PREFORMED
D804(RA)	E-D-0403-1853	6611032640	DIODE RECTIFIER FRRD BYV26DGP 800V 1A 75nS
D804(RB)	E-D-0403-1839	6611012835	DIODE RECTIFIER UFRRD 1NU41-TP3
D804(RC)	E-D-0403-1839	6611032644	DIODE RECTIFIER GUF 10K
D805*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA
D806(RA)	E-D-0403-1853	6611032640	DIODE RECTIFIER FRRD BYV26DGP 800V 1A 75nS
D806(RB)	E-D-0403-1839	6611012835	DIODE RECTIFIER UFRRD 1NU41-TP3
D806(RC)	E-D-0403-1839	6611032644	DIODE RECTIFIER GUF 10K
D807(RA)	E-D-0403-2003	6615011831	DIODE ZENER RD20EB2-T1
D807(RB)	E-D-0403-2004	6615011833	DIODE ZENER HZ20-1-TD
D808*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA
D810*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75 V 150mA
D811	E-D-0403-1844	6611070541	DIODE RECTIFIER SBD 1N5817 20V 1A
D812(RA)	E-D-0403-1853	6611032640	DIODE RECTIFIER FRRD BYV26DGP 800V 1A 75nS
D812(RB)	E-D-0403-1839	6611032644	DIODE RECTIFIER GUF 10K
D812(RC)	E-D-0403-1839	6611012835	DIODE RECTIFIER 1NU41-TP3
D815	E-D-0403-1839	6611012835	DIODE RECTIFIER 1NU41-TP3
D816(RA)	E-D-0403-0612	6611032341	DIODE RECTIFIER 2NU41-TPA1
D816(RB)	E-D-0403-1993	6611032244	DIODE RECTIFIER HER308G 100OV/3A
D817(RA)	E-D-0403-1842	6611015244	DIODE RECTIFIER UF5402G
D817(RB)	E-D-0403-1866	6611018200	DIODE RECTIFIER 30DF2
D817(RC)	E-D-0403-1990	6611015245	DIODE RECTIFIER GUF30D
D818(RA)	E-D-0403-1842	6611015244	DIODE RECTIFIER UF5402G
D818(RB)	E-D-0403-1866	6611018200	DIODE RECTIFIER 30DF2
D818(RC)	E-D-0403-1990	6611015245	DIODE RECTIFIER GUF30D
D819(RA)	E-D-0403-0612	6611032341	DIODE RECTIFIER UFRRD 2NU41-TPA1
D819(RB)	E-D-0403-1993	6611032244	DIODE RECTIFIER HER308G
D820(RA)	E-D-0403-1856	6613002244	DIODE SWITCHING RGP 10D-G23
D820(RB)	E-D-0403-1996	6613002248	DIODE SWITCHING 1N4935
D820(RC)	E-D-0403-1854	6611035644	DIODE RECTIFIER RGP 10D
D821*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA.RB.RC)
D822	E-D-0403-0022	6611007244	DIODE RECTIFIER 1N4002RL(RA.B.RC.RD)
D823(RA)	E-D-0403-1040	6615006443	DIODE ZENER RD6.2EB2-T15.99-6.24V
D823(RB)	E-D-0403-1878	6615009756	DIODE ZENER HZ6C2-TD 6-6.3 V
D825(RA)	E-D-0403-1856	6613002244	DIODE SWITCHING RGP 10D
D825(RB)	E-D-0403-1996	6613002248	DIODE SWITCHING 1N4935
D825(RC)	E-D-0403-1854	6611035644	DIODE RECTIFIER RGP 10D
D826(RA)	E-D-0403-2002	6615011333	DIODE ZENER 1N5252B-RL
D826(RB)	E-D-0403-0649	6615023331	DIODE ZENER HZ24-2-TD 23.6-24.7V
D827	E-D-0403-1868	6615007834	DIODE ZENER HZ5C1 TD 4,9-5.1 V
D828(RA)	E-D-0403-1984	6611007242	DIODE RECTIFIER 1N4002 G23
D828(RB)	E-D-0403-1750	6611007240	DIODE RECTIFIER 1N4002RL
D828(RC)	E-D-0403-0022	6611007244	DIODE RECTIFIER 1N4002
D829(RA)	E-D-0403-2006	6615018830	DIODE ZENER RD18EB2-T1
D829(RB)	E-D-0403-2007	6615018834	DIODE ZENER HZ18-1-TD
D840*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA.RB.RC)
D850	E-D-0403-1839	6611012835	DIODE RECTIFIER 1NU41-TP3
D855	E-D-0403-1844	6611070541	DIODE RECTIFIER 1N5817 SBO 20V 1A
DA01*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA.RB.RC)
DA01A*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA.RB.RC)
DA02	E-D-0403-1868	6615007834	DIODE ZENER HZ5C 1-TD 4.9-5.1
DA04*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA.RB.RC)
DA05*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA.RB.RC)
DA06*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA.RB.RC)

DA07*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA.RB.RC)
DA08*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA.RB.RC)
DA09*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA.RB.RC)
DA10*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA.RB.RC)
DA11*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA (RA.RB.RC)
DA12	E-D-0403-1868	6615007834	DIODE ZENER HZ5C 1-TD 4.9-5.1
PS:		*1N4148: RA 6613003032 RB 6613003037 RC 6613003048	
		#1N4002: RA 6611007240 RB 6611007244 RC 6611007243 RD 661100	

LOCATION	VIEWSONIC P/N	PART NO.	DESCRIPTION
INTEGRATED CIRCUIT:			
I101(RA)	E-IC-0401-0277	6644063111	IC LINER UC3842BN
I101(RB)	E-IC-0401-2503	6644063112	IC LINER DBL3842
I301	E-IC-0401-2450	6644076308	IC LINER DEFLECTION TDA9116 SDIP32
I310	E-IC-0401-0005	6644076000	IC LINER V-O/P TDA8172 7P
I802	E-IC-0401-2447	6640003800	IC VOLTAGE LM1117T5
I803(RA)	E-IC-0401-0277	6644063111	IC LINER UC3842BN
I803(RB)	E-IC-0401-2503	6644063112	IC LINER DBL3842
I804(RA)	E-IC-0401-2449	6642002904	IC PHOTO COUPLER TLP721F
I804(RB)	E-IC-0401-1240	6642002906	IC PHOTO COUPLER LTV817M
I804(RC)	E-PC-0411-0081	6642002909	IC PHOTO COUPLER KP1010H-B
I805(RA)	E-IC-0401-2449	6642002904	IC PHOTO COUPLER TLP721F
I805(RB)	E-IC-0401-1240	6642002906	IC PHOTO COUPLER LTV817M
I805(RC)	E-PC-0411-0081	6642002909	IC PHOTO COUPLER KP1010H-B
I807(RA)	E-IC-0401-2449	6642002904	IC PHOTO COUPLER TLP721F
I807(RB)	E-IC-0401-1240	6642002906	IC PHOTO COUPLER LTV817M
I807(RC)	E-PC-0411-0081	6642002909	IC PHOTO COUPLER KP100H-B
I808(RA)	E-IC-0401-2448	6640007705	IC VOLTAGE REGULATOR ADJ A431LP (1 %) TC-92
I808(RB)	E-IC-0401-2448	6640007706	IC VOLTAGE REGULATOR TL431ACLP (1 %)TO-92
I808(RC)	E-IC-0401-2502	6640007712	IC VOLTAGE REGULATOR TL431LN1% TO-92
I871(RA)	E-IC-0401-2306	6640002705	IC VOLTAGE REGULATOR L8712CV 12V 1.5A
I871(RB)	E-IC-0401-0188	6640002000	IC VOLTAGE REGULATOR L8712 12V 1.5A
I871(RC)	E-IC-0401-2321	6640002006	IC VOLTAGE REGULATOR L8712BE12V 1.5A
I871(RD)	E-IC-0401-2320	6640002003	IC VOLTAGE REGULATOR L8712API 12V 1.5A
IA01(RA)	E-IC-0401-2416	6647008204	IC LSI MCU FLASH MTP NT68F62U SDIP-42 8BIT 32K
IA01(RB)	E-IC-0401-2576	6647008206	IC LSI MCU OTP NT68F62U SDIP-42 8BIT 32K
IA02(RA)	E-IC-0401-1888	6647051822	IC MEMORY EEPROM 8K 24LC08B/P DIP-8
IA02(RB)	E-IC-0401-1888	6647051823	IC MEMORY CMOS EEPROM AT24C08-10PC DIP-8
IA02(RC)	E-IC-0401-2559	6647051824	IC MEMORY CMOS EEPROM 24WC08P DIP-8
IA02(RD)	E-IC-0401-2560	6647051825	IC MEMORY CMOS EEPROM S524C80D81-DCBO (KS24CO81C) DIP-8

LOCATION	VIEWSONIC P/N	PART NO.	DESCRIPTION
TRANSISTOR:			
Q104	E-Q-0402-1360	6621015332	TRANSISTOR NPN HF 2SC1815Y
Q104A	E-Q-0402-1360	6621015332	TPANSISTOR NPN HF 2SC1815Y
Q104A	E-Q-0402-1420	6621015335	TRANSISTOR NPN HF H945P
Q105	E-Q-0402-1084	6621040730	TRANSISTOR NPN HF MPSA44 500V 0.6A TO-92
Q108	E-Q-0402-1519	6624009232	TRANSISTOR PNP MPSA92
Q111	E-Q-0402-1517	6621006530	TRANSISTOR NPN BC548C
Q114	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
Q115	E-Q-0402-1424	6623002050	TRANSISTOR PNP 2SA1015Y
Q116	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
Q117	E-Q-0402-1424	6623002050	TRANSISTOR PNP 2SA1015Y
Q118	E-Q-0402-1424	6623002050	TRANSISTOR PNP 2SA1015Y
Q121	E-Q-0402-1076	6626003202	TRANSISTOR FET MOS 2SK28431000V 6A
Q122	E-Q-0402-1485	6621040830	TRANSISTOR NPN BC639
Q123	E-Q-0402-1517	6621006530	TRANSISTOR NPN BC548C
Q124	E-Q-0402-1415	6626004000	TRANSISTOR FET MOS N-CH 2SK2161
Q125	E-Q-0402-1489	6626006130	TRANSISTOR FET MOSFET BSN254A
Q126	E-Q-0402-1517	6621006530	TRANSISTOR NPN BC548C
Q301	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
Q302	E-Q-0402-1360	6621015332	TRANSISTOR PNP 2SC1815Y
Q303	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815 Y
Q400(RA)	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y

Q400(RB)	E-Q-0402-1516	6621003230	TRANSISTOR NPN 2SC458C
Q401	E-Q-0402-1424	6623002050	TRANSISTOR PNP 2SA1015Y
Q402RA)	E-Q-0402-1447	6626005700	TRANSISTOR FET MOSFET 2SJ449
Q402(RB)	E-Q-0402-1512	6626005702	TRANSISTOR FET MOSFET 2SJ512
Q404	E-Q-0402-1486	6622000701	TRANSISTOR NPN LF 2SK2679
Q405	E-Q-0402-1429	6622018000	TRANSISTOR NPN LF 2SD882Q
Q410(RA)	E-Q-0402-1520	6626000605	TRANSISTOR FET MOS IRFS630A
Q410(RB)	E-Q-0402-1415	6626000604	TRANSISTOR FET MOS IRFS63OMFP
Q410(RC)		6626004000	TRANSISTOR FET MOSFET N-CH 2SK2161
Q411(RA)	E-Q-0402-1419	6621026430	TRANSISTOR NPN BF422
Q411(RB)	E-Q-0402-1518	6621026401	TRANSISTOR NPN BF422
Q412(RA)	E-Q-0402-1429	6626000605	TRANSISTOR FET MOS IRFS630A
Q412(RB)	E-Q-0402-1520	6626000604	TRANSISTOR FET MOS IRFS63OMFP
Q412(RC)	E-Q-0402-1415	6626004000	TRANSISTOR FET MOSFET N-CH 2SK2161
Q413(RA)	E-Q-0402-1419	6621026430	TRANSISTOR NPN BF422
Q413(RB)	E-Q-0402-1518	6621026401	TRANSISTOR NPN BF422
Q414(RA)	E-Q-0402-1429	6626000605	TRANSISTOR FET MOS IRFS630A
Q414(RB)	E-Q-0402-1520	6626000604	TRANSISTOR FET MOS IRFS630MFP
Q414(RC)	E-Q-0402-1415	6626004000	TRANSISTOR FET MOSFET N-CH 2SK2161
Q415(RA)	E-Q-0402-1419	6621026430	TRANSISTOR NPN BF422
Q415(RB)	E-Q-0402-1518	6621026401	TRANSISTOR NPN BF422
Q416(RA)	E-Q-0402-1429	6626000605	TRANSISTOR FET MOS IRFS630A
Q416(RB)	E-Q-0402-1520	6626000604	TRANSISTOR FET MOS IRFS630MFP
Q416(RC)	E-Q-0402-1415	6626004000	TRANSISTOR FET MOSFET N-CH 2SK2161
Q417(RA)	E-Q-0402-1419	6621026430	TRANSISTOR NPN BF422
Q417(RB)	E-Q-0402-1518	6621026401	TRANSISTOR NPN BF422
Q423	E-Q-0402-1486	6622018000	TRANSISTOR NPN LF 2SD882Q
Q424	E-Q-0402-1487	6624001300	TRANSISTOR NPN LF 2SB772
Q429	E-Q-0402-1424	6623002050	TRANSISTOR PNP 2SA1015Y
Q430	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
Q433	E-Q-0402-1463	6621002801	TRANSISTOR NPN HF BU4525AX
Q471	E-Q-0402-1461	6623006332	TRANSISTOR PNP HF KTA1273
Q472	E-Q-0402-1462	6621018032	TRANSISTOR NPN HF KTC3205Y
Q473	E-Q-0402-1360	6621015332	TRANSISTOR NPN HF 2SC1815Y
Q475	E-Q-0402-1361	6623007230	TRANSISTOR PNP HF 2SA1020-Y-TPE6
Q801	E-Q-0402-1488	6626003208	TRANSISTOR FET MOSFET N-CH FJUI 2SK2648-01
Q804	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
Q805	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
Q806	E-Q-0402-1487	6624001300	TRANSISTOR PNP LF 2SB772
Q807	E-Q-0402-1424	6623002050	TRANSISTOR PNP 2 SA1015Y
Q808	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
Q810	E-Q-0402-1084	6621040730	TRANSISTOR NPN MPSA44
Q811	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
Q812	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
Q813	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
Q814	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
Q815	E-Q-0402-1084	6621040730	TRANSISTOR NPN MPSA44
Q816	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
Q866	E-Q-0402-1487	6624001300	TRANSISTOR PNP 2SB722
Q867	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
QA01	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
QA02	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
QA03	E-Q-0402-1360	6621015332	TRANSISTOR NPN 2SC1815Y
LOCATION	VIEWSONIC P/N	PART NO.	DESCRIPTION
COIL:			
B801	E-L-0407-1379	5062122949	CORE,BEAD RH03506ST-B
L101	E-L-0407-1511	5064433025	COIL,PEAKING TRF-8330J 33UH J
L102	E-L-0407-1511	5064433025	COIL,PEAKING TRF-8330J 33UH J
L103	E-L-0407-1379	5062122949	RH03506ST-B BEAD CORE
L104	E-L-0407-1507	5062122910	R6H 6X10X0.8 1TS EC0610R6H-B BEAD CORE
L105		5062124403	COIL,CHOKE B-6-22A (0),BC0610R6HB-B3
L106	E-L-0407-1393	5062122946	CORE,BEAD RH3506AT-B
L300	E-L-0407-1377	5062118309	CORE,BEAD RH035047ST-Y7
L301	E-L-0407-1511	5064433025	CORE,BEAD TRF-8330J

L401	E-T-0408-0466	5062419900	TRANS,HOR.DRIVG TLN-199
L402	E-L-0407-1508	5062228304	COIL,HOR.LINEARITY TLH-283D
L403	E-T-0408-0469	5062422500	TRANS,DYNAMIC FOCUS TDF-225
L404	E-L-0407-1504	5062117701	COIL,CHOKE CHK-177A
L405	E-L-0407-1509	5062229000	COIL,HOR.CHOKE TCH-290
L801	M-FT-0827-0090	5061111000	FILTER,EMI TRANSFORMER TYPE TLF-110
L805	E-L-0408-1514	5061101000	COIL,BEAD HC5-035,E45HZ-3.5X11X0.8
L870	E-L-0407-1383	5062202300	COIL,HOR.CHOKE TLN-2026
L871	E-L-0407-1506	5062123001	COIL,HOR.CHOKE CHK-230A
L872	E-L-0407-1383	5062202300	COIL,HOR.CHOKE TLN-2026
L873	E-L-0407-1504	5062117701	COIL,HOR.CHOKE CHK-177A
L874	E-L-0407-1506	5062123001	COIL,HOR.CHOKE CHK-230A
L875	E-L-0407-1383	5062202300	COIL,HOR.CHOKE TLN-2026
L876	E-L-0407-1380	5062122971	CORE,BEAD RH035078ST-B
L877	E-L-0407-1506	5062123001	CORE,CHOKE CHK-230A
LOCATION	VIEWSONIC P/N	PART NO.	DESCRIPTION
RESISTOR:			
R100	E-R-0405-6751	5130420206	R.CF 2W 2K J
R100A	E-R-0405-6751	5130420206	R.CF 2W 2K J
R101	E-R-0405-3872	5142433490	R.CF 1/2W 330K J
R102	E-R-0405-3872	5142433490	R.CF 1/2W 330K J
R103	E-R-0405-6911	5142162195	R.CF 1/6W 620 J
R104	E-R-0405-2328	5142818395	R.CF 1/4W 18K J
R105	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
R106	E-R-0405-6670	5142891395	R.CF 1/4W 91K J
R107	E-R-0405-2338	5142836395	R.CF 1/4W 36K J
R108	E-R-0405-6554	5142151295	R.CF 1/6W 5.1K J
R111	E-R-0405-6509	5142833195	R.CF 1/4W 330 J
RI12		51421/6295	R.CF 1/6W 1.6K J
R118	E-R-0405-2376	5142815295	R.CF 1/4W 1.5K J
R119	E-R-0405-3090	5142810195	R.CF 1/4W 100K J
R120	E-R-0405-6922	5130451303	R.MOF 2W 51K J
R121	E-R-0405-6788	5142415590	R.CF 1/2W 1.5M J
R121A	E-R-0405-6788	5142415590	R CF 1/2W 1.5M J
R124	E-R-0405-6914	5142182195	R.CF 1/6W 820 J
R126	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
R127	E-R-0405-6902	5142112195	R.CF 1/6W 120 J
R128	E-R-0405-6793	5142133395	R.CF 1/6W 33K J
R129	E-R-0405-6522	5142115495	R.CF 1/6W 150K J
R130	E-R-0405-6538	5142127295	R.CF 1/6W 2.7K J
R131	E-R-0405-2462	5142847095	R.CF 1/4W 47 J
R132	E-R-0405-3363	5142422390	R.CF 1/2W 22K J
R135	E-R-0405-2338	5142836395	R.CF 1/4W 36K J
R136	E-R-0405-6918	5134718018	R.MF 1/6W 1.8K J
R137	E-R-0405-6917	5134715018	R.MF 1/6W 1.5K J
R138	E-R-0405-6549	5142147295	R.CF 1/6W 4.7K J
R139	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
R140	E-R-0405-6914	5142182195	R.CF 1/6W 820 J
R141	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
R142	E-R-0405-3185	5142810495	R.CF 1/4W 100K J
R146	E-R-0405-6785	5130324303	R.MOF 1W 24K J
R148	E-R-0405-5902	5142882195	R.CF 1/4W 820 J
R149	E-R-0405-6913	5142168095	R.CF 1/6W 68 J
R150	E-R-0405-6520	5142110395	R.CF 1/6W 10K J
R151	E-R-0405-6549	5142147295	R.CF 1/6W 4.7K J
R152	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
R153	E-R-0405-3090	5142810195	R.CF 1/4W 100 J
R154	E-R-0405-6517	5142110095	R.CF 1/6W 10 J
R155	E-R-0405-6520	5142110395	R.CF 1/6W 10K J
R156	E-R-0405-6546	5142147195	R.CF 1/6W 470 J
R157	E-R-0405-6985	5130439003	R.MOF 2W 39 J
R158	E-R-0405-5879	5142810095	R.CF 1/4W 10 J
R159	E-R-0405-6517	5142110095	R.CF 1/6W 10 J
R160	E-R-0405-6546	5142147195	R.CF 1/6W 470 J

R161	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
R162	E-R-0405-5934	5142822995	R.CF 1/4W 2.2 J
R163	E-R-0405-6784	5130322203	R.MOF 1W 2.2K J
R164		5130333403	R.MOF 1W 330K J
R165	E-R-0405-6519	5142110495	R.CF 1/6W 100K J
R166	E-R-0405-6555	5142156295	R.CF 1/6W 5.6K J
R167	E-R-0405-6789	5162162220	R.VR B 22K M
R168	E-R-0405-6547	5142147395	R.CF 1/6W 47K J
R169	E-R-0405-6547	5142147395	R.CF 1/6W 47K J
R170	E-R-0405-6910	5142139395	R.CF 1/6W 39K J
R171	E-R-0405-5898	5142856295	R.CF 1/4W 5.6K J
R172	E-R-0405-6538	5142127295	R.CF 1/6W 2.7K J
R173	E-R-0405-6897	5142802095	R.CF 1/4W 2 J
R175	E-R-0405-6912	5142162395	R.CF 1/6W 62K J
R176	E-R-0405-6790	5162162820	R.VR B 100K M
R177	E-R-0405-6809	5142862395	R.CF 1/4W 62K J
R301	E-R-0405-6919	5134756018	R.MF 1/6W 5.6K F
R302	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
R303	E-R-0405-6520	5142110395	R.CF 1/6W 10K J
R304	E-R-0405-6519	5142110495	R.CF 1/6W 100K J
R306	E-R-0405-6903	5142112395	R.CF 1/6W 12K J
R307	E-R-0405-6544	5142133295	R.CF 1/6W 3.3K J
R308	E-R-0405-6901	5142116295	R.CF 1/6W 1.6K J
R309	E-R-0405-6901	5142116295	R.CF 1/6W 1.6K J
R310	E-R-0405-6907	5142122495	R.CF 1/6W 220K J
R311	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
R312	E-R-0405-6547	5142147395	R.CF 1/6W 47K J
R313	E-R-0405-6520	5142110395	R CF 1/6W 10K J
R314	E-R-0405-6536	5142120295	R.CF 1/6W 2K J
R315	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
R316	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
R317	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
R318	E-R-0405-6548	5142143295	R.CF 1/6W 4.3K J
R319		5142875395	R.CF 1/4W 75K J
R319A	E-R-0405-7061	5162162880	T5X2.5B 100K M
R320	E-R-0405-6523	5142115395	R.CF 1/6W 15K J
R321	E-R-0405-6906	5142122095	R.CF 1/6W 22 J
R322	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
R323	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
R324	E-R-0405-2330	5142815395	R.CF 1/4W 15K J
R325	E-R-0405-6896	5142816395	R.CF 1/4W 16K J
R326	E-R-0405-6535	5142127395	R.CF 1/6W 27K J
R327	E-R-0405-6545	5142139295	R.CF 1/6W 3.9K J
R384	E-R-0405-5845	5130468903	R.MOF 2W 6.8 J
R385	E-R-0405-6520	5142110395	R.CF 1/6W 10K J
R386	E-R-0405-6786	5130456903	R.MOF 2W 5.6 J
R388	E-R-0405-5765	5142415990	R.CF 1/2W 1.5 J
R389	E-R-0405-6701	5130418903	R.MOF 2W 1.8 J
R390	E-R-0405-0046	5142433190	R.CF 1/2W 330 J
R400	E-R-0405-3090	5142810195	R.CF 1/4W 100 J
R401	E-R-0405-6891	5130222007	R.MOF 1/2W 22 J
R402		5130547003	R.MOF 3W 47 J
R403	E-R-0405-3408	5142812195	R.CF 1/4W 120 J
R404	E-R-0405-3175	5142810395	R.CF 1/4W 10K J
R407		5130512103	R.MOF 3W 120 J
R409	E-R-0405-3072	5142822295	R.CF 1/4W 2.2K J
R410	E-R-0405-3090	5142810195	R.CF 1/4W 100 J
R412	E-R-0405-3175	5142810395	R.CF 1/4W 10K J
R414	E-R-0405-6572	5130522103	R.MOF 3W 220 J
R415	E-R-0405-6787	5130515003	R.MOF 3W 15 J
R417	E-R-0405-6705	5136005006	R.MOF 5W 1.0K
R419	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
R420	E-R-0405-3195	5142810295	R.CF 1/4W 1K J
R426	E-R-0405-5884	5142815495	R.CF 1/4W 150K J
R427	E-R-0405-3217	5142847395	R.CF 1/4W 47K J

R429	E-R-0405-5884	5142815495	R.CF 1/4W 150K J
R430	E-R-0405-3217	5142847395	R.CF 1/4W 47K J
R432	E-R-0405-5884	5142815495	R.CF 1/4W 150K J
R433	E-R-0405-3217	5142847395	R.CF 1/4W 47K J
R437	E-R-0405-3217	5142847395	R.CF 1/4W 47K J
R438	E-R-0405-5884	5142815495	R.CF 1/4W 150K J
R453	E-R-0405-3922	5130410003	R.MOF 2W 10 J
R454	E-R-0405-6791	5162561980	R.VR B 10K M
R455	E-R-0405-6762	5142868195	R.CF 1/4W 680 J
R456	E-R-0405-6762	5142868195	R.CF 1/4W 680 J
R472	E-R-0405-6548	5142143295	R.CF 1/6W 4.3K J
R473	E-R-0405-5879	5142810095	R.CF 1/4W 10 J
R474	E-R-0405-5879	5142810095	R.CF 1/4W 10 J
R475	E-R-0405-6520	5142110395	R.CF 1/6W 10K J
R476	E-R-0405-5889	5142824195	R.CF 1/4W 240 J
R477	E-R-0405-5901	5142868395	R.CF 1/4W 68K J
R478	E-R-0405-3175	5142810395	R.CF 1/4W 10K J
R479	E-R-0405-6221	5142130395	R CF 1/6W 30K J
R480	E-R-0405-3195	5142810295	R CF 1/4W 1K J
R481	E-R-0405-6520	5142110395	R CF 1/6W 10KJ
R801	E-R-0405-6893	5142482490	R.CF 1/2W 820K J
R802	E-R-0405-6509	5142833195	R.CF 1 /4W 330 J
R803	E-TH-0416-0113	5101115300	R.THERMISTOR,POSITIVE
R804(RA)	E-TH-0416-0108	5101114200	R.THERMISTOR GC-P 10D 100
R804(RB)	E-TH-0416-0114	5101118400	R.THERMISTOR PROTECTORS 10L 3A
R807	E-R-0405-6750	5130324803	R.FU MOF 1W 0.24 J
R808	E-R-0405-2330	5142815395	R.CF 1/4W 15K J
R809	E-R-0405-6899	5142851495	R.CF 1/4W 510K J
R810	E-R-0405-6899	5142851495	R.CF 1/4W 510K J
R811	E-R-0405-5952	5130410303	R.MOF 2W 10K J
R812	E-R-0405-5952	5130410303	R.MOF 2W 10K J
R813	E-R-0405-5961	5130510403	R.MOF3W 100K J
R814	E-R-0405-3199	5142851995	R.CF 1/4W 5.1 J
R815	E-R-0405-3090	5142810195	R.CF 1/4W 100 J
R816	E-R-0405-3175	5142810395	R.CF 1/4W 10K J
R817	E-R-0405-6794	5142162295	R.CF 1/6W 6.2K J
R817A	E-R-0405-1965	5162161720	R.VR 5K M
R818	E-R-0405-3185	5142810495	R.CF 1/4W 100K J
R819	E-R-0405-3210	5142847295	R.CF 1/4W 4.7K J
R820	E-R-0405-6892	5130556906	R MOF 3 W 5.6 UB
R821	E-R-0405-6222	5142113395	R.CF 1/6W 13K J
R823	E-R-0405-6547	5142147395	R.CF 1/6W 47K J
R824	E-R-0405-6536	5142120295	R.CF 1/6W 2K J
R825	E-R-0405-2379	5142827395	R.CF 1/4W 27K J
R826	E-R-0405-3195	5142810295	R.CF 1/4W 1K J
R827	E-R-0405-1938	5162161220	R.VR 2K M
R828	E-R-0405-3090	5142810195	R.CF 1/4W 100 J
R829	E-R-0405-3199	5142851295	R.CF 1/4W 5.1K J
R831	E-R-0405-6752	5130420803	R.MOF 2W 0.2 J
R832	E-R-0405-3195	5142810295	R.CF 1/4W 1KJ
R833	E-R-0405-6518	5142110195	R.CF 1/6W 1K J
R834	E-R-0405-6896	5142816395	R.CF 1/4W 16K J
R835	E-R-0405-3175	5142810395	R.CF 1/4W 10K J
R836	E-R-0405-0933	5130582003	R.MOF 3W 82 J
R837	E-R-0405-6299	5142818495	R.CF 1/4W 180K J
R838	E-R-0405-6299	5142818495	R.CF 1/4W 180K J
R839	E-R-0405-6299	5142818495	R.CF 1/4W 180K J
R840	E-R-0405-6299	5142818495	R.CF 1/4W 180K J
R841	E-R-0405-6520	5142110395	R.CF 1/6W 10K J
R842	E-R-0405-6895	5142813195	R.CF 1/4W 130 J
R844	E-R-0405-6894	5142812095	R.CF 1/4W 12 J
R845	E-R-0405-6551	5142151195	R.CF 1/6W 510 J
R847	E-R-0405-3199	5142851295	R.CF 1/4W 5.1 K J
R848	E-R-0405-2472	5142843395	R.CF 1/4W 43K J
R850	E-R-0405-6525	5142110295	R.CF 1/6W 1K J

R852	E-R-0405-6520	5142110395	R.CF 1/6W 10K J
R856	E-R-0405-3175	5142810395	R.CF 1/4W 10K J
R857	E-R-0405-3892	5142812295	R.CF 1/4W 1.2K J
R859	E-R-0405-6545	5142139295	R.CF 1/6W 3.9K J
R862	E-R-0405-6554	5142151295	R.CF 1/6W 5.1K J
R863	E-R-0405-6554	5142151295	R.CF 1/6W 5.1K J
R866	E-R-0405-2452	5130539903	R.MOF 3W 3.9 J
R867	E-R-0405-3892	5142812295	R.CF 1/4W 1.2K J
R868	E-R-0405-3195	5142810295	R.CF 1 /4W 1KJ
R869	E-R-0405-6547	5142147395	R.CF 1/6W 47K J
R871	E-R-0405-6538	5142127295	R.CF 1/6W 2.7K J
R872	E-R-0405-6513	5142843295	R.CF 1/4W 4.3K J
R873	E-R-0405-6554	5142151295	R.CF 1/6W 5.1K J
R874	E-R-0405-6536	5142120295	R.CF 1/6W 2K J
R876	E-R-0405-6914	5142182195	R.CF 1/6W 820 J
R877	E-R-0405-5898	5142856295	R.CF 1/4W 5.6K J
R880	E-R-0405-3922	5130410003	R MOF 2W 10 J
R882	E-R-0405-6817	5130315003	R.MOF 1W 15K J
RA01	E-R-0405-6903	5142112395	R.CF 1/6W 12K J
RA01A	E-R-0405-6555	5142156295	R.CF 1/6W 5.6K J
RA02	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
RA03	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
RA05	E-R-0405-6520	5142110395	R.CF 1/6W 10K J
RA06	E-R-0405-3175	5142810395	R.CF 1/4W 10K J
RA07	E-R-0405-3175	5142810395	R.CF 1/4W 10K J
RA08	E-R-0405-3175	5142810395	R.CF 1/4W 10K J
RA09	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
RA10	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
RA11	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
RA12	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
RA13	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
RA14	E-R-0405-6540	5142133195	R.CF 1/6W 330 J
RA15	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
RA16	E-R-0405-6908	5142127095	R.CF 1/6W 27 J
RA18	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
RA20	E-R-0405-3175	5142810395	R.CF 1/4W 10K J
RA21	E-R-0405-3175	5142810395	R.CF 1/4W 10K J
RA22	E-R-0405-3175	5142810395	R.CF 1/4W 10K J
RA23	E-R-0405-3175	5142810395	R.CF 1/4W 10K J
RA24	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
RA24A	E-R-0405-6555	5142156295	R.CF 1/6W 5.6K J
RA25	E-R-0405-6549	5142147295	R.CF 1/6W 4.7K J
RA26	E-R-0405-6554	5142151295	R.CF 1/6W 5.1K J
RA27	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
RA28	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
RA29	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
RA30	E-R-0405-6549	5142147295	R.CF 1/6W 4.7K J
RA31	E-R-0405-6549	5142147295	R.CF 1/6W 4.7K J
RA32	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
RA33	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
RA34	E-R-0405-6556	5142168195	R.CF 1/6W 680 J
RA35	E-R-0405-6782	5142122295	R.CF 1/6W 2.2K J
RA36	E-R-0405-6782	5142122295	R.CF 1/6W 2.2K J
RA37	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
RA38	E-R-0405-3175	5142810395	R.CF 1/4W 10K J
RA38A	E-R-0405-3175	5142810395	R.CF 1/4W 10K J
RA39	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
RA40	E-R-0405-3090	5142810195	R.CF 1/4W 100 J
RA41	E-R-0405-6520	5142110395	R.CF 1/6W 10K J
RA42	E-R-0405-6558	5142168395	R.CF 1/6W 68K J
RA42A	E-R-0405-3072	5142822295	R.CF 1/4W 2.2 K J
RA43	E-R-0405-6545	5142139295	R.CF 1/6W 3.9K J
RA44	E-R-0405-6520	5142110395	R.CF 1/6W 10K J
RA45	E-R-0405-6520	5142110395	R.CF 1/6W 10K J
RA46	E-R-0405-6520	5142110395	R.CF 1/6W 10K J

RA47	E-R-0405-6520	5142110395	R.CF 1/6W 10K J
RA48	E-R-0405-6540	5142133195	R.CF 1/6W 330 J
RA49	E-R-0405-6782	5142122295	R.CF 1/6W 2.2K J
RA50	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
RA51	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
RA52	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
RA53	E-R-0405-6549	5142147295	R.CF 1/6W 4.7K J
RA54	E-R-0405-6549	5142147295	R.CF 1/6W 4.7K J
RA55	E-R-0405-3892	5142812295	R CF 1/4W 1.2K J
LOCATION	VIEWSONIC P/N	PART NO.	DESCRIPTION
RELAY:			
SR801	E-RL-0414-0105	5054613402	RELAY OSA-SS-212DM5
TRANSFORMER:			
T101(RA)	E-FBT-0406-0242	5062628031	TRANSFORMER,FLYBACK COLOR TFB-280T-31
T101(RB)	E-FBT-0406-0243	5062628032	TRANSFORMER,FLYBACK COLOR TFB-280L-31
T401	E-T-0408-0467	5062420400	TRANSFORMER,HOR.DRIVE TLN-204
T801	E-T-0408-0451	5061369700	POWER TRANSFORMER,SWITCHING TPW-697
CRYSTAL:			
XA01(RA)	E-X-0415-0115	6699003504	CERAMIC RESONATOR CST8.00MTW (TCR-1056)
XA01(RB)	E-X-0415-0116	6699643001	CERAMIC RESONATOR CST800MG03 0.5% 3PIN
FUSE:			
F801	E-FS-0410-0059	5054431539	FUSE 250V/3.15A
F801A	M-MS-0808-7920	5056506400	FUSE HOLDER
SPARK GAP:			
Z101(RA)	E-SP-0417-0088	5202200591	SPARK GAP 1.2KV 1PF(MAX)
Z101(RB)	E-SP-0417-0087	5202200502	SPARK GAP 1.2KV 1PF(MAX)
Z801	E-SP-0417-0088	5202200591	SPARK GAP 1.2KV 1PF(MAX)
Z809	E-SP-0417-0088	5202200591	SPARK GAP 1.2KV 1PF(MAX)
Z803	E-SP-0417-0090	5202201991	SPARK GAP 200V 1PF (MAX)
2805	E-SP-0417-0090	5202201991	SPARK GAP 200V 1PF (MAX)
Z809	E-SP-0417-0088	5202200591	SPARK GAP 1.2KV 1PF(MAX)
PCB BOARD:			
U0334		5053103342	PCB,MAIN BOARD PWB-0334-B
U0414	B-CRT-0217-0093	5053104140	PCB,CRT DRIVE BOARD PWB-0414
U0488		5053104880	PCB,SWITCH CONTROL BOARD PWB-0488
BASE & PIN:			
P1011	M-MS-0808-6629	5036200701	ADHESIVE,HOLT MELT LB-110 1
P301	M-WR-0828-0623	5057415206	WIRE ASS'Y W/15P CONN UL/CSA 1007#24 L=330MM
P302	M-WR-0828-0622	5057404300	WIRE ASS'Y W/15P CONN UL/CSA1007#24 JST/JAE
P304	PL-PS-0715-0135	5056415830	BASE & PIN 8P (P=2.5MM 1)
P400	M-MS-0808-6636	5056203901	PIN RT-01N-2.3A
P401	PL-PS-0715-0122	5056407801	BASE & PIN 2.36mm 4P(UL/CSA/TUV)
P407	M-MS-0808-6636	5056203901	PIN RT-01N-2.3A
P408	M-MS-0808-6636	5056203901	PIN RT-01N-2.3A
P409	M-MS-0808-6636	5056203901	PIN RT-01N-2.3A
P410	M-MS-0808-6636	5056203901	PIN RT-01N-2.3A
P411	M-MS-0808-6636	5056203901	PIN RT-01N-2.3A
P471	PL-PS-0715-0133	5056415326	BASE&PIN 2.5mm 3P(UL/CSA/TUV)WIRE ASS'Y W/2PCONNUL/CSA1617#22
P800	M-WR-0828-0620	5057402199	LSINX2/SINX2350
P801	M-MS-0808-7921	5056513117	AC SOCKEY 7014(A)
P803	PL-PS-0715-0131	5056415207	BASE & PIN 2.36mm 2P(UL/CSA/TUV)
PA03	M-WR-0828-0621	5057402320	WIRE ASS'Y W/15P CONN
PA06		5056415378	BASE & PIN B3B EH (BLK)
15.3 ASSEMBLY PCB-CRT DRIVE (PWB-0414)			
LOCATION	VIEWSONIC P/N	PART NO.	DESCRIPTION

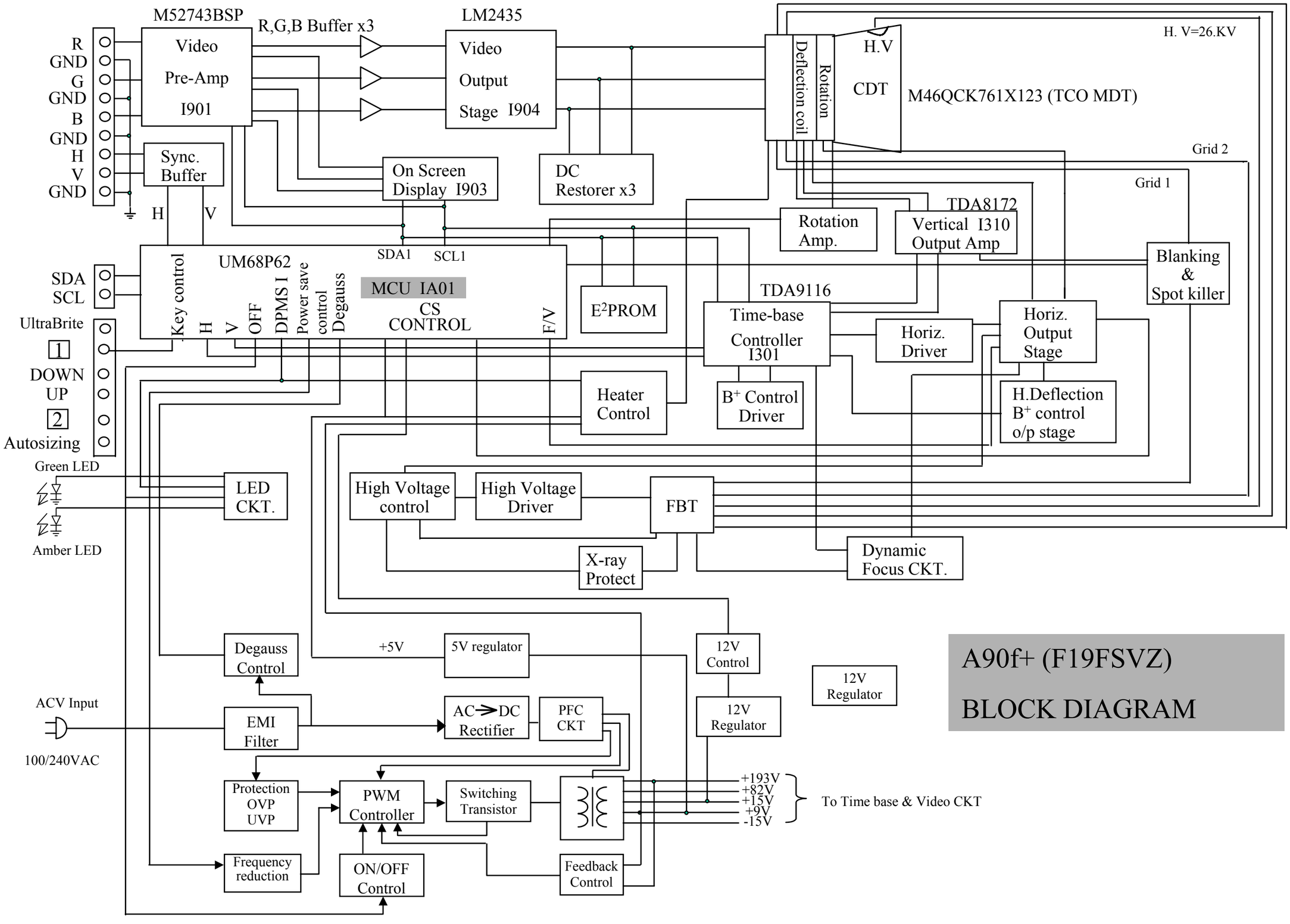
CAPACITOR:			
C900	E-C-0404-1118	5242210191	C.CE 50V 100PF J
C900A	E-C-0404-1118	5242210191	C.CE 50V 100PF J
C901	E-C-0404-4374	5213601091	C.EL 50V 1UF M
C902	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C903	E-C-0404-4329	5216301091	C.EL 200V 1UF M
C904	E-C-0404-3472	5231347191	C.CE 50V 470PF K
C905	E-C-0404-4754	5214110091	C.EL 100V 10UF M
C906	E-C-0404-3352	5276110491	C.ME 100V 0.1UF J
C907	E-C-0404-4352	5214147012	C.EL 1 00V 47UF M
C907B	E-C-0404-3352	5276110491	C.ME 100V 0.1UF J
C908	E-C-0404-4326	5231310391	C.CE 50V 10000PF K
C908A	E-C-0404-4326	5231310391	C.CE 50V 10000PF K
C910	E-C-0404-1118	5242210191	C.CE 50V 100PF J
C911	E-C-0404-4330	5213410191	C.EL 25V 100UF M
C911A	E-C-0404-4333	5233310291	C.CE 1 KV 1000PF K
C912	E-C-0404-1118	5242210191	C.CE 50V 100PF J
C913	E-C-0404-4331	5213647891	C.EL 50V 0.47UF M
C914	E-C-0404-4333	5233310291	C.CE 1KV 1000PF K
C915	E-C-0404-1118	5242210191	C.CE 50V 100PF J
C916	E-C-0404-4324	5232315291	C.CE 500V 1500PF K
C917	E-C-0404-4375	5210502191	C.EL 50V 2.2UF M
C918	E-C-0404-4337	5232310391	C.CE 500V 10000PF K
C920	E-C-0404-4361	5214410012	C.EL 250V 10UF M
C920A	E-C-0404-4337	5232310301	C.CE 500V 10000PF K
C922	E-C-0404-4131	5232310291	C.CE 500V 1000PF K
C923	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C925	E-C-0404-4330	5213410191	C.EL 25V 100UF M
C925A	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C926	E-C-0404-4323	5233547201	C.CE 1KV 4700PF M
C926A	E-C-0404-1871	5233310191	C.CE 1KV 100PF K
C926B	E-C-0404-3909	5233318191	C.CE 1KV 180PF K
C927	E-C-0404-4326	5231310391	C.CE 50V 10000PF K
C930B	E-C-0404-1118	5242210191	C.CE 50V 100PF J
C931	E-C-0404-4374	5213601091	C.EL 50V 1UF M
C932	E-C-0404-4137	5236310491	.
C933	E-C-0404-4329	5216301091	C.EL 200V 1UF M
C933A	E-C-0404-4342	5232356191	C.CE 500V 560PF K
C934	E-C-0404-4359	5213333191	C.EL 16V 330UF M
C934B	E-C-0404-4333	5233310291	C.CE 1KV 1000PF K
C935	E-C-0404-4754	5214110091	C.EL 100V 10UF M
C936	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C937	E-C-0404-4333	5233310291	C.CE 1KV 1000PF K
C947	E-C-0404-4352	5214147012	C.EL 100V 47UF M
C950	E-C-0404-4753	5247318091	C.CE 500V 18PF J
C953	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C953A	E-C-0404-2896	5213310191	C.EL 16V 100UF M
C954	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C958	E-C-0404-4330	5213410191	C.EL 25V 100UF M
C958A	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C960	E-C-0404-4355	5213222191	C.EL 10V 220UF Z
C961	E-C-0404-4374	5213601091	C.EL 50V 1UF M
C963	E-C-0404-4329	5216301091	C.EL 200V 1UF M
C965	E-C-0404-4754	5214110091	C.EL 100V 10UF M
C970	E-C-0404-4326	5231310391	C.CE 50V 10000PF K
C972	E-C-0404-4326	5231310391	C.CE 50V 10000PF K
C973	E-C-0404-4330	5213410191	C.EL 25V 100UF M
C978	E-C-0404-4330	5213410191	C.EL 25V 100UF M
C979	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
C983	E-C-0404-4358	5213322191	C.EL 16V 220UF M
C983A	E-C-0404-4137	5236310491	C.BL 50V 0.1UF Z
DIODE:			
D901*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA
D902*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA

D903#	E-D-0403-1255	6611036040	DIODE RECTIFIER BAV21
D904	E-D-0403-1858	6613004934	DIODE SWITCHING 1SS133
D913*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA
D931*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA
D932*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA
D933#	E-D-0403-1255	6611036040	DIODE RECTIFIER BAV21
D934	E-D-0403-1858	6613004934	DIODE SWITCHING 1SS133
D941	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA
D943*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA
D961*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA
D962*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA
D963	E-D-0403-1255	6611036040	DIODE RECTIFIER BAV21
D964	E-D-0403-1858	6613004934	DIODE SWITCHING 1SS133
D973*	E-D-0403-1751	6613003032	DIODE SWITCHING 1N4148-TD 75V 150mA
D974	E-D-0403-1868	6615007834	ZENER DIODE HZ5C 4.9-5.1V
PS:		*1N4148: RA 6613003032 RB 6613003037 RC 6613003048	
		#BAV: RA 6611036040 RB 6611032741	
INTEGRATED CIRCUIT:			
I901	E-IC-0401-1264	6644076905	IC,LINEAR VIDEO PRE.AMP.M52743BSP SDIP-36
I903		6645008907	IC,DIGITAL OSD MTV038N20 17 20P
I904	E-IC-0401-2388	6644009606	IC,LINEAR VIDEO AMP.LM2435 T 9PIN
COIL:			
L905	E-L-0407-1393	5062122946	CORE,BEAD RH03506AT-B
L906		5062133201	COPE,BEAD BF30TA 2.5X3X18
L911		5062133201	COPE,BEAD BF30TA 2.5X3X18
L912	E-L-0407-1388	5064456845	COIL,PEAKING TRF-8568M 0.56UH M
L921	E-L-0407-1505	5062122902	CORE,BEAD BL03RN2-R62T4
L926	E-L-0407-1378	5062119801	COIL CHOKE CHK-198
L928	E-L-0407-1380	5062122971	CORE,BEAD RH035078ST B
L935	E-L-0407-1393	5062122946	CORE,BEAD RH03506AT-B
L942	E-L-0407-1388	5064456845	COIL,PEAKING TRF-8568M 0.56UH M
L951	E-L-0407-1505	5062122902	CORE,BEAD BL03RN2-R62T4
L953	E-L-0407-1510	5064010029	COIL,PEAKING TRF-3100J 10UH J
L965	E-L-0407-1393	5062122946	CORE,BEAD PH03506AT-B
L972	E-L-0407-1388	5064456845	COIL,PEAKING TRF-8568M 0.56UH M
L979	E-L-0407-1378	5062119801	COIL,CHOKE EMI CHK-198
L980	E-L-0407-1383	5062202300	COIL,HOR CHOKE TLN-2026
L980A	E-L-0407-1379	5062122949	CORE,BEAD RH03506ST
L981	E-L-0407-1383	5062202300	COIL,HOR CHOKE TLN-2026
L982	E-L-0407-1383	5062202300	COIL,HOR CHOKE TLN-2026
L983	E-L-0407-1505	5062122902	CORE,BEAD BL03RN2-R62T4
BASE & PIN:			
P901	PL-PS-0715-0156	5056404404	BASE & PIN 14P(2.5mm) IL-G-14P-S3T2-E
P902	PL-PS-0715-0158	5056406500	BASE & PIN IL-G-1 5P-S3T2-E
P903	PL-PS-0715-0159	5056403404	BASE & PIN 4P(2.5mm-I) IL-G-4P-S3T2-E
P904	PL-PS-0715-0130	5056403204	BASE & PIN 2P(2.5mm-I) IL-G-2P-S3T2-E
P906	M-MS-0808-6636	5056203901	PIN RT-01N-2.3A
P910A	M-WR-0828-0618	5057401407	WIRE ASS'Y W/01P CONN 6X24/0/12 P11351 L=3 60mm
P911A	M-WR-0828-0616	5057401311	WIRE ASS'Y W/01P CONN 144C P11531 L= 190mm
P912A	M-WR-0828-0619	5057401408	WIRE ASS'Y W/01P CONN 6X24/0.12 SMT1741BS-2
P913A	M-WR-0828-0617	5057401403	WIRE ASS'Y W/01P CONN 96C/0.12mm 1741BS-
P914A		5057401201	WIRE ASS'Y W/01P CONN UL/CSA1015318 BLK
P922	PL-PS-0715-0157	5056404522	BASE & PIN 1.56mm 2P(UL/CSA/TUV)
TRANSISTOR:			
Q903	E-Q-0402-1419	6621026430	TR NPN HF BF422
Q910(RA)	E-Q-0402-1360	6621015332	TR NPN HF 2SC1815Y
Q910(RB)	E-Q-0402-1420	6621015335	TR NPN HF H945P
Q933	E-Q-0402-1419	6621026430	TR NPN HF BF422
Q963	E-Q-0402-1419	6621026430	TR NPN HF BF422
Q987(RA)	E-Q-0402-1360	6621015332	TR NPN HF 2SC1815Y
Q987(RB)	E-Q-0402-1420	6621015335	TR NPN HF H945P

RESISTOR:			
R900	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
R901	E-R-0405-6559	5142175095	R.CF 1/6W 75 J
R902	E-R-0405-6222	5142113395	R.CF 1/6W 13K J
R903	E-R-0405-6526	5142115295	R.CF 1/6W 1.5K J
R904	E-R-0405-5887	5142822095	R.CF 1/4W 22 J
R905	E-R-0405-6223	5142182295	R.CF 1/6W 8.2K J
R905A	E-R-0405-6904	5142113495	R.CF 1/6W 130K J
R906	E-R-0405-3195	5142810295	R.CF 1/4W 1K J
R907	E-R-0405-6067	5142815195	R.CF 1/4W 150 J
R908	E-R-0405-6511	5142843095	R.CF 1/4W 43 J
R909	E-R-0405-6556	5142168195	R.CF 1/6W 680 J
R909A	E-R-0405-6900	5142113295	R.CF 1/6W 1.3K J
R910	E-R-0405-6542	5142139195	R.CF 1/6W 390 J
R912	E-R-0405-5883	5142813395	R.CF 1/4W 13K J
R913	E-R-0405-6947	5142862095	R.CF 1/4W 62 J
R914	E-R-0405-2462	5142847090	R.CF 1/4W 47 J
R915	E-R-0405-6520	5142110395	R.CF 1/6W 10K J
R916	E-R-0405-3183	5142810595	R.CF 1/4W 1M J
R917	E-R-0405-6920	5130362303	R.MOF 1W 62K J
R918	E-R-0405-2396	5142818295	R.CF 1/4W 1.8K J
R918A	E-R-0405-6545	5142139295	R.CF 1/6W 3.9K J
R920	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
R921	E-R-0405-5914	5142415190	R.CF 1/2W 150 J
R923	E-R-0405-6944	5142147095	R.CF 1/6W 47 J
R924	E-R-0405-6944	5142147095	R.CF 1/6W 47 J
R925	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
R927	E-R-0405-6909	5142130195	R.CF 1/6W 300 J
R928	E-R-0405-6550	5142151095	R.CF 1/6W 51 J
R929	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
R930	E-R-0405-6941	5130527903	R.MOF 3W 2.7 J
R931	E-R-0405-6559	5142175095	R.CF 1/6W 75 J
R934	E-R-0405-5819	5142833095	R.CF 1/4W 33 J
R935	E-R-0405-6223	5142182295	R.CF 1/6W 8.2K J
R935A	E-R-0405-6904	5142113495	R.CF 1/6W 130K J
R936	E-R-0405-3195	5142810295	R.CF 1/4W 1K J
R938	E-R-0405-3545	5142443090	R.CF 1/2W 43 J
R939	E-R-0405-6762	5142868195	R.CF 1/4W 680 J
R939A	E-R-0405-6900	5142113295	R.CF 1/6W 1.3K J
R940	E-L-0407-1379	5062122949	BEAD CORE R-H03506S
R940A	E-R-0405-6915	5142191095	R.CF 1/6W 91 J
R942	E-R-0405-6222	5142113395	R.CF 1/6W 13K J
R943	E-R-0405-6946	5142824095	R.CF 1/4W 24 J
R946	E-R-0405-3183	5142810595	R.CF 1/4W 1M J
R947	E-R-0405-6920	5130362303	R.MOF 1W 62K J
R948	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
R949	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
R950	E-R-0405-6557	5142168495	R.CF 1/6W 680K J
R952	E-R-0405-4359	5142410590	R.CF 1/2W 1M J
R952A	E-R-0405-5726	5130310003	R.MOF 1W 10 J
R954	E-R-0405-3195	5142810295	R.CF 1/4W 1K J
R955	E-R-0405-6525	5142110295	R.CF 1/6W 1K J
R961	E-R-0405-6559	5142175095	R.CF 1/6W 75 J
R964	E-R-0405-5887	5142822095	R.CF 1/4 W 22 J
R965	E-R-0405-6223	5142182295	R.CF 1/6W 8.2K J
R965A	E-R-0405-6904	5142113495	R.CF 1/6W 130K J
R966	E-R-0405-6525	5142110295	R.CF 1/6W 1 K J
R968	E-R-0405-6511	5142843095	R.CF 1/4W 43 J
R969	E-R-0405-6762	5142868195	R.CF 1/4W 680 J
R969A	E-R-0405-6900	5142113295	R.CF 1/6W 1.3K J
R970	E-R-0405-6555	5142156295	R.CF 1/6W 5.6K J
R972	E-R-0405-5883	5142813395	R.CF 1/4W 13K J
R973	E-R-0405-6511	5142843095	R.CF 1/4W 43 J
R974	E-R-0405-6544	5142133295	R.CF 1/6W 3.3 K

R976	E-R-0405-3183	5142810595	R.CF 1/4W 1M J
R976A	E-R-0405-6221	5142130395	R.CF 1/6W 30K J
R977	E-R-0405-6920	5130362303	R.MOF 1 W 62K J
R978	E-R-0405-6544	5142133295	R.CF 1/6W 3.3 K J
R981	E-R-0405-6520	5142110395	R.CF 1/6W 10K J
R983	E-R-0405-2462	5142847095	R.1/4W 47 J
R984	E-R-0405-2473	5142830395	R.CF 1/4W 30K J
R986	E-R-0405-6220	5142124395	R.CF 1/6W CF 24K J
R987	E-R-0405-6582	5142120095	R.CF 1/6W 20 J
RESISTOR:			
R988	E-R-0405-6582	5142120095	R.CF 1/6W 20 J
R991	E-R-0405-6543	5142139495	R.CF 1/6W 390K J
R992	E-R-0405-6943	5142139995	R.CF 1/6W 3.9 J
R993	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
R994	E-R-0405-6518	5142110195	R.CF 1/6W 100 J
R995	E-R-0405-6078	5142856006	R.CF 1/4W 56 UB J
R996	E-R-0405-6942	5142136095	R.CF 1/6W 36 J
R997	E-R-0405-6942	5142136095	R.CF 1/6W 36 J
R998	E-R-0405-6942	5142136095	R.CF 1/6W 36 J
OTHER:			
V901A	M-MS-0808-7346	5056306721	CRT SOCKET METALLO 033-0-7700-44 B10-301
Z901	E-SP-0417-0091	5202202491	SPARK GAP MITSUBISHI DC300V 1PF DSP-301N-C04F
Z914(RA)	E-SP-0417-0090	5202201991	SPARK GAP DC200V 1PFDSP-20 1M-C04F
Z914(RB)	E-SP-0417-0089	5202201301	SPARK GAP DC200V 1PFGD412-200V-M
Z944(RA)	E-SP-0417-0090	5202201991	SPARK GAP DC200V 1PFDSP-20 1M-C04F
Z944(RB)	E-SP-0417-0089	5202201301	SPARK GAP DC200V 1PFGD412-200V-M
Z952(RA)	E-SP-0417-0099	5212200591	SPARK GAP 1KV 1PF
Z952(RB)	E-SP-0417-0087	5202200502	SPARK GAP 1KV 1PF
Z952(RC)	E-SP-0417-0086	5202200501	SPARK GAP SG05G 1KV 1PF
Z974(RA)	E-SP-0417-0090	5202201991	SPARK GAP DC200V 1PFDSP-20 1M-C04F
Z974(RB)	E-SP-0417-0089	5202201301	SPARK GAP DC200V 1PFGD412-200V-M
KEY CONTROL PCB			
PWB-0488			
SWITCH:			
SA01	M-SW-0815-0203	5054512980	TACT SWITCH SKHHPM2520-PL
SA02	M-SW-0815-0203	5054512980	TACT SWITCH SKHHPM2520-PL
SA03	M-SW-0815-0203	5054512980	TACT SWITCH SKHHPM2520-PL
SA04	M-SW-0815-0203	5054512980	TACT SWITCH SKHHPM2520-PL
SA05	M-SW-0815-0203	5054512980	TACT SWITCH SKHHPM2520-PL
SA06	M-SW-0815-0203	5054512980	TACT SWITCH SKHHPM2520-PL
SA07	M-SW-0815-0203	5054512980	TACT SWITCH SKHHPM2520-PL
DA01	E-D-0403-1837	6618018400	DIODE LED CSL F500YG2MT AMBER / GREEN
P304A		5057408057	WIRE ASS'Y W/08P CONN.EMR/JAM CORE
PA06A		5057403414	WIRE ASS'Y W/08P CONN.A2502/B2513 L=250MM

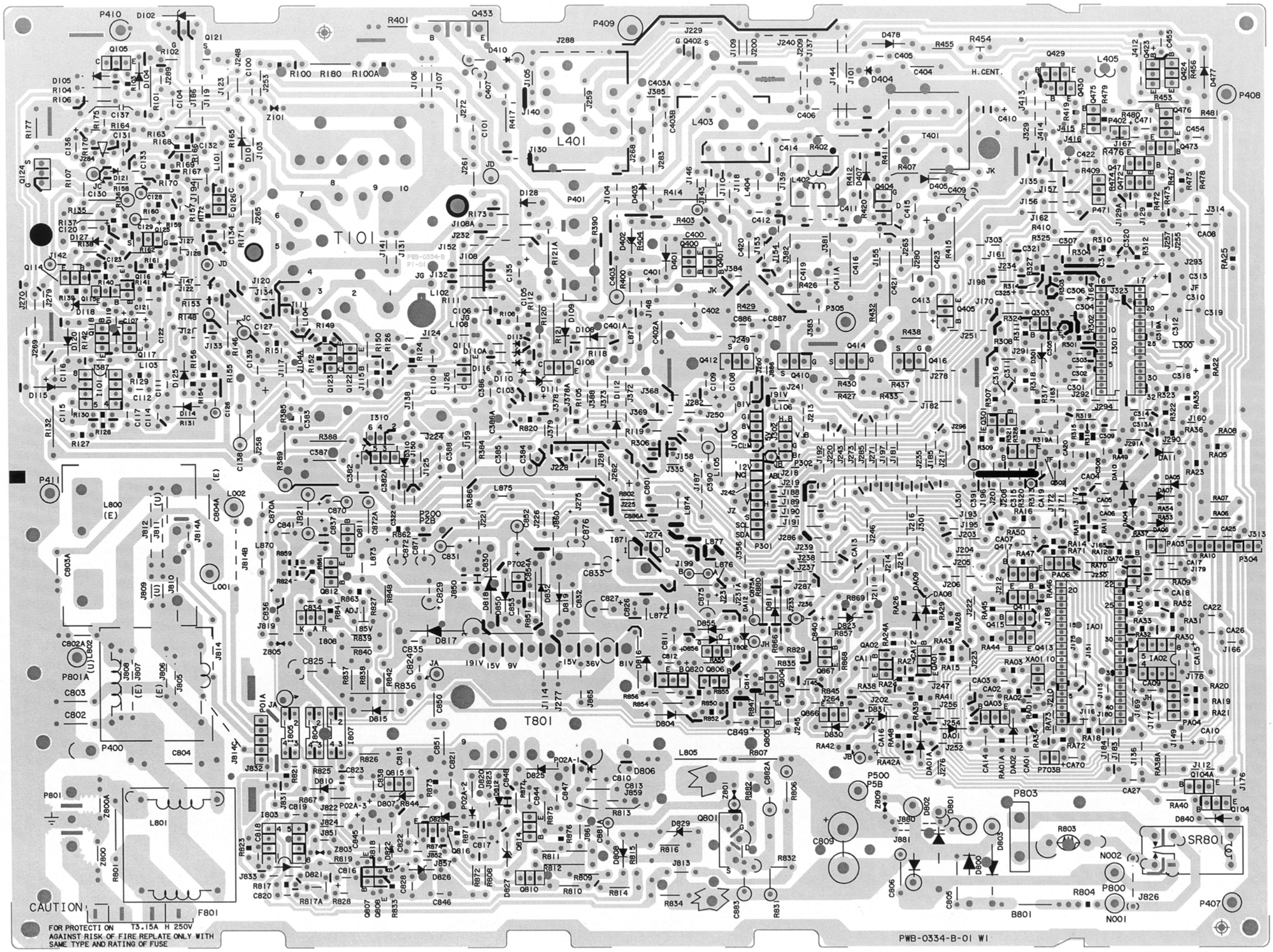
11. Block Diagram



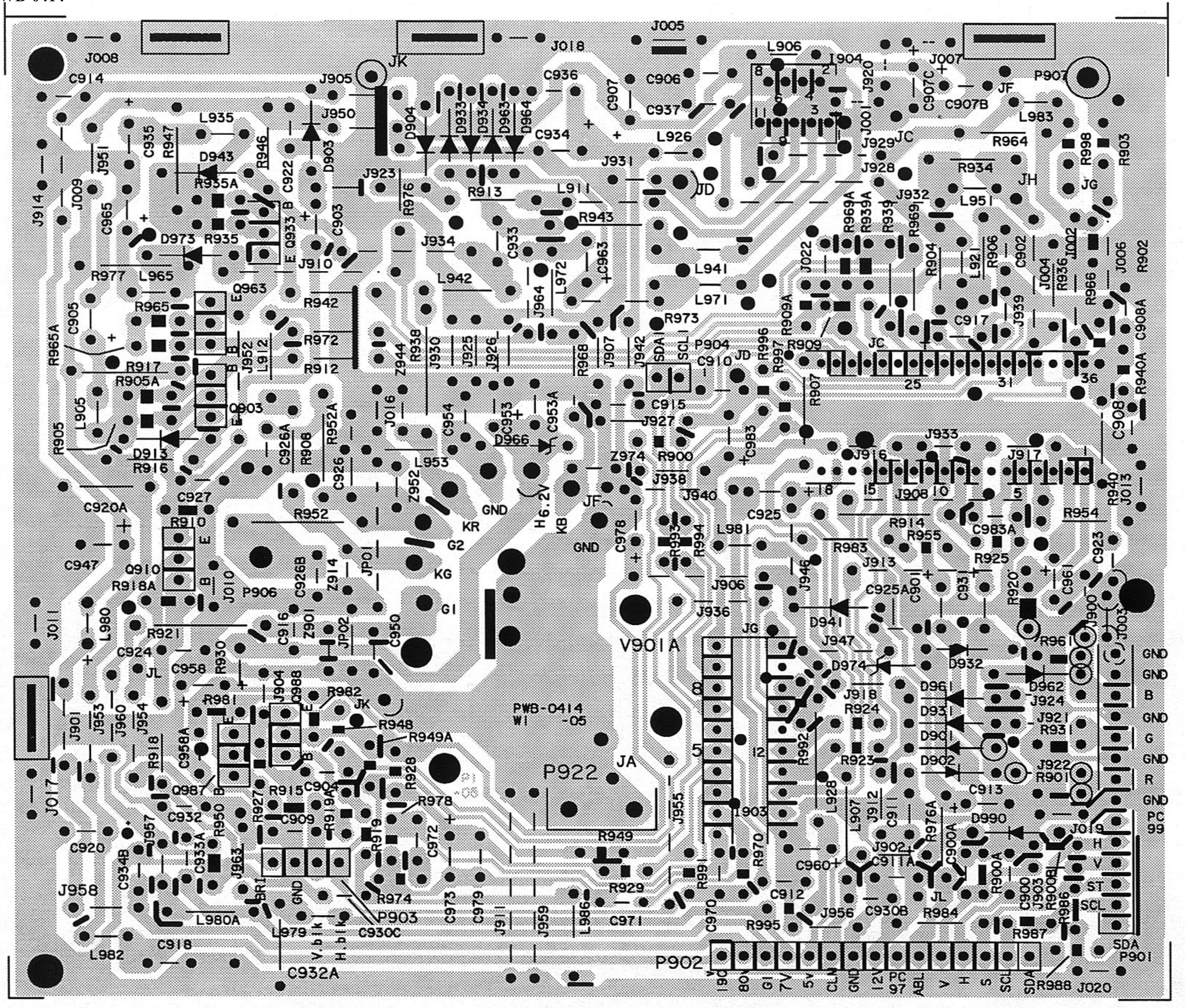
A90f+ (F19FSVZ)

BLOCK DIAGRAM

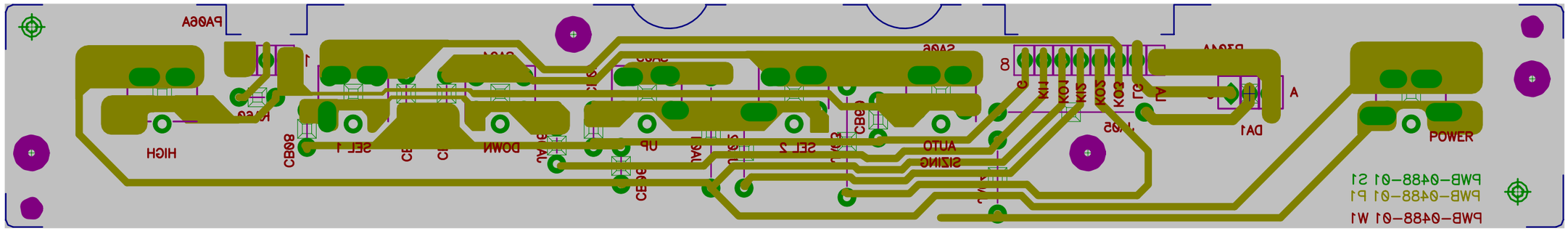
12. PCB Layout

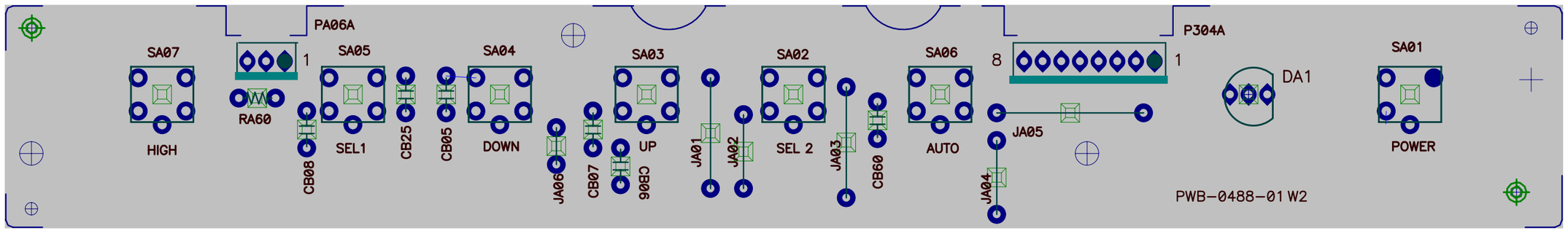


VIDEO PWB-0414



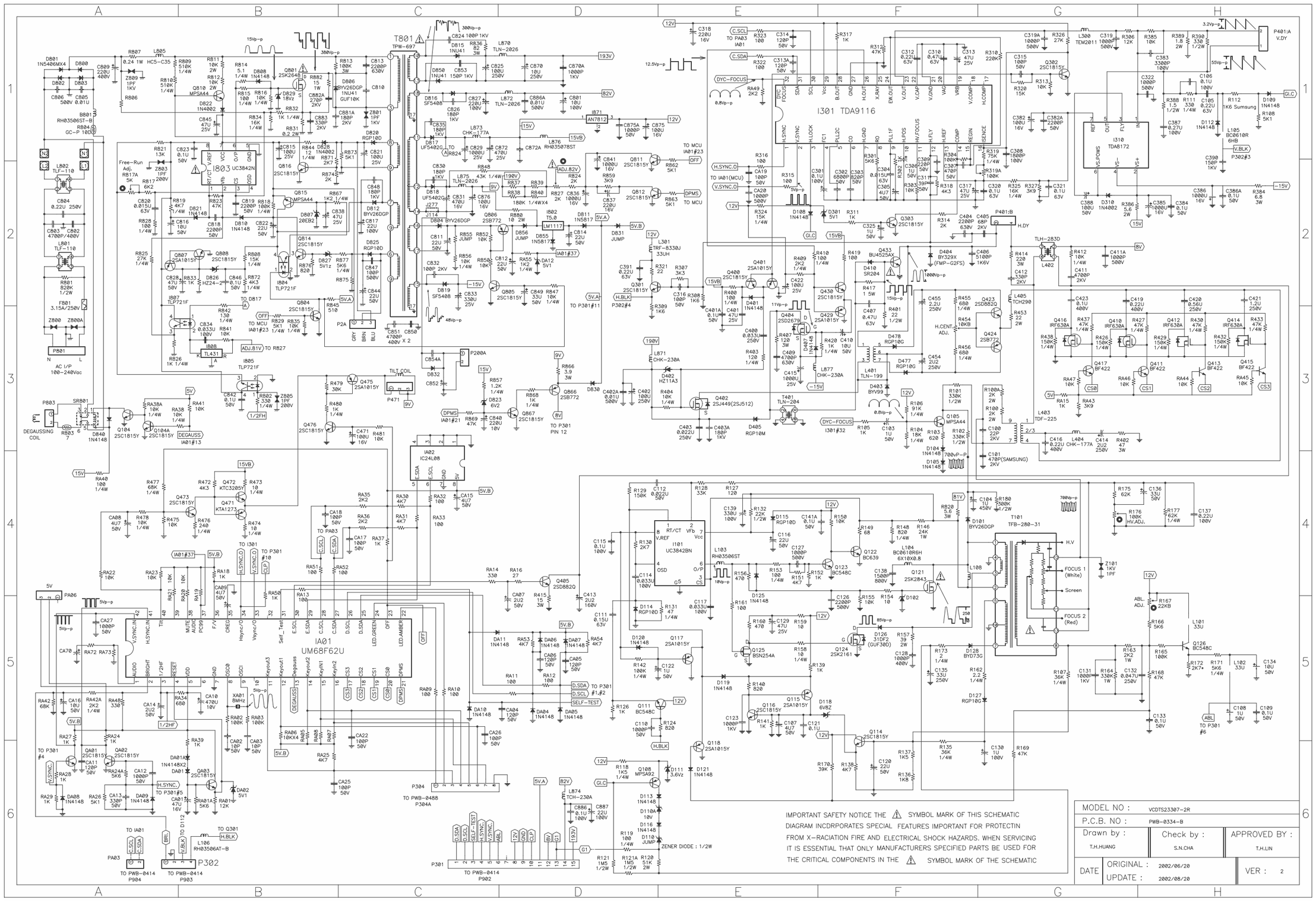
KEY CONTROL PWB-0488



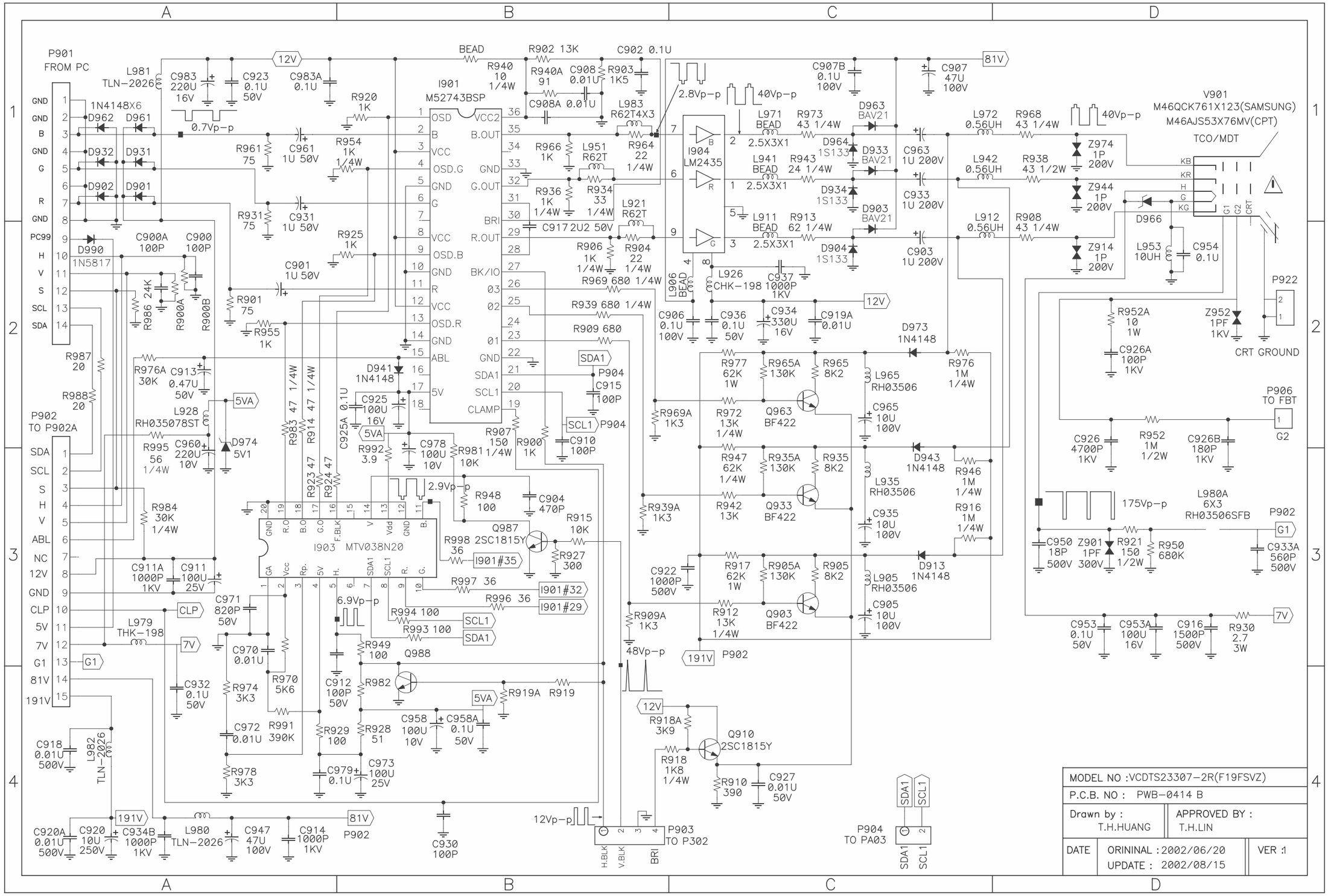


13. Schematic Diagrams

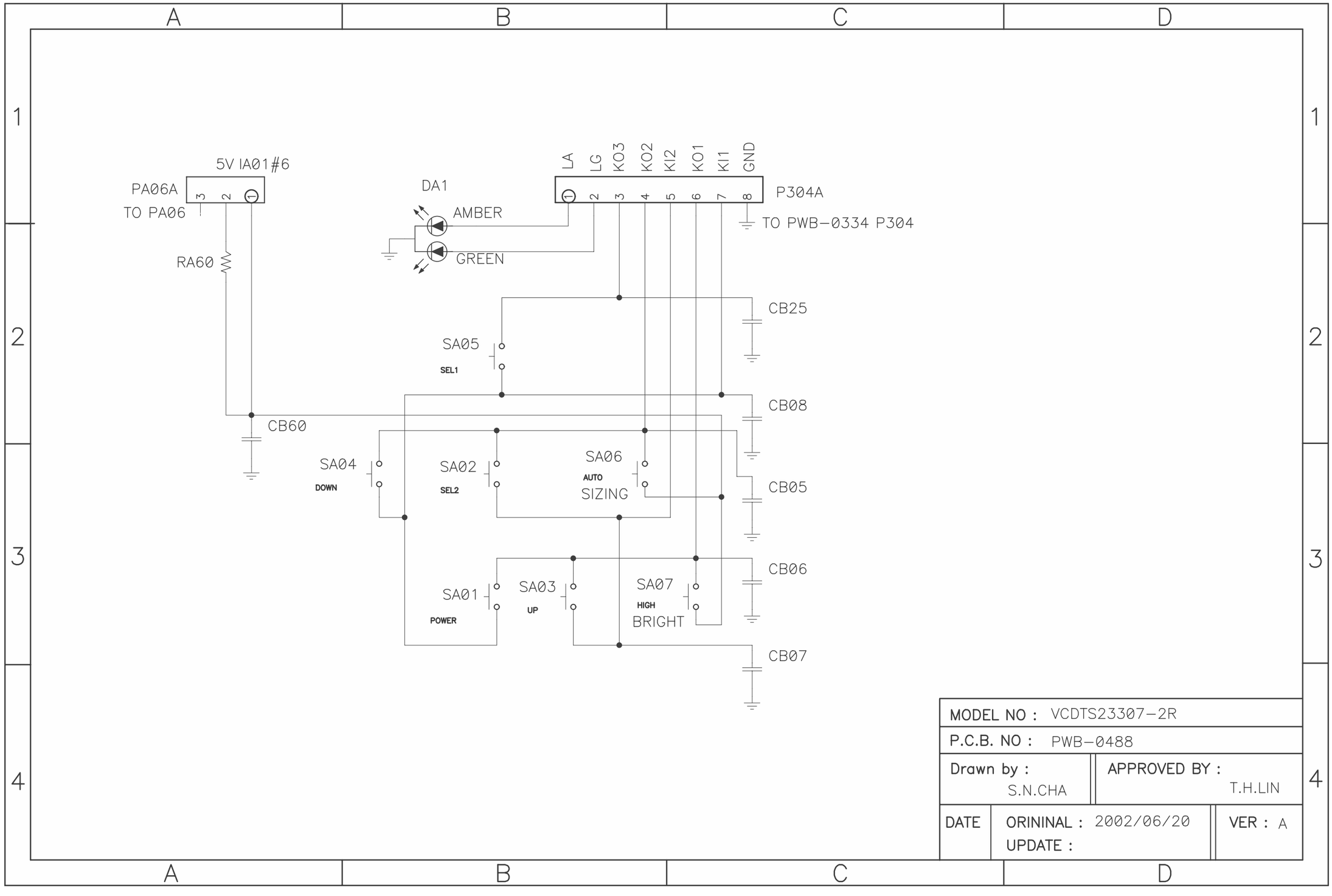
MAIN BOARD



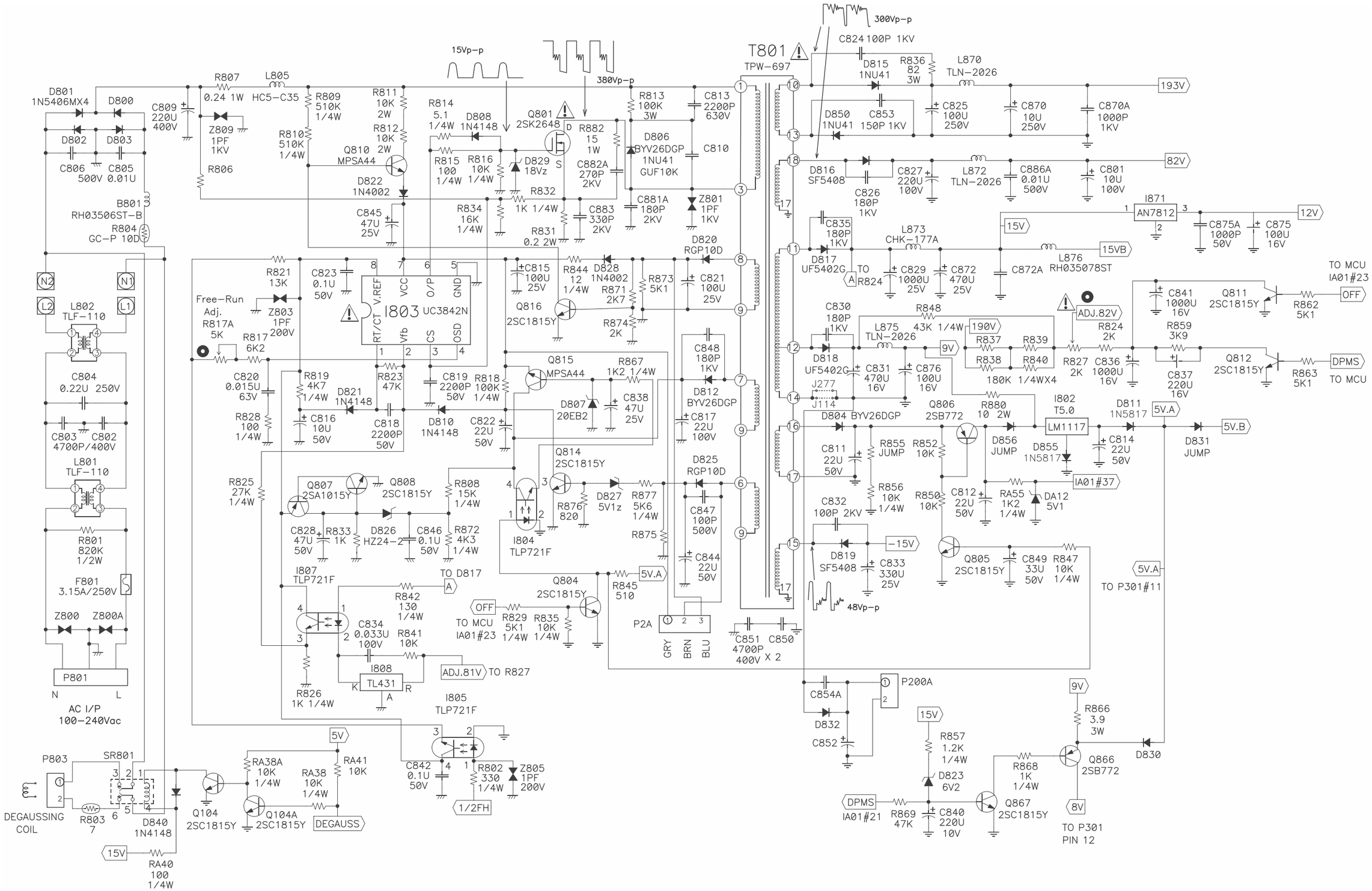
VIDEO


P901
FROM PC
GND
B
G
R
PC99
H
V
S
SCL
SDA
1N4148X6
D962
D961
D932
D931
D902
D901
D990
1N5817
L981
TLN-2026
C983
220U
16V
C923
0.1U
50V
C983A
0.1U
12V
0.7Vp-p
R920
1K
R961
75
C961
1U 50V
R954
1K
1/4W
R931
75
C931
1U 50V
R925
1K
C901
1U 50V
R901
75
R955
1K
C900A
100P
C900
100P
R986 24K
R900A
R900B
R987
20
R988
20
R976A
30K
C913
0.47U
50V
5VA
L928
RH035078ST
C960
220U
10V
D974
5V1
R995
56
1/4W
P902
TO P902A
SDA
SCL
S
H
V
ABL
NC
12V
GND
CLP
5V
7V
G1
81V
191V
R984
30K
1/4W
C911A
1000P
1KV
C911
100U
25V
CLP
L979
THK-198
7V
G1
C932
0.1U
50V
C918
0.01U
500V
L982
TLN-2026
C920A
0.01U
500V
C920
10U
250V
191V
C934B
1000P
1KV
L980
TLN-2026
C947
47U
100V
C914
1000P
1KV
81V
P902
C930
100P
BEAD
R902 13K
C902 0.1U
R940
10
1/4W
R940A
91
C908
0.01U
R903
1K5
C908A 0.01U
L983
R62T4X3
I901
M52743BSP
OSD
B
VCC
OSD.G
GND
G.OUT
G
BRI
R.OUT
VCC
OSD.B
GND
BK/IO
R
VCC
OSD.R
GND
ABL
5V
VCC2
B.OUT
GND
BRI
R.OUT
03
02
01
GND
SDA1
SCL1
CLAMP
R966
1K
L951
R62T
R964
22
1/4W
R936
1K
1/4W
R934
33
1/4W
C917 2U2 50V
L921
R62T
R906
1K
1/4W
R904
22
1/4W
R969 680 1/4W
R939 680 1/4W
R909 680
SDA1
P904
C915
100P
SCL1
P904
C910
100P
R907
150
R900
1K
R969A
1K3
R939A
1K3
R909A
1K3
D941
1N4148
C925
100U
16V
C925A 0.1U
5VA
C978
100U
10V
R992
3.9
R981
10K
R983 47 1/4W
R914 47 1/4W
R923 47
R924 47
2.9Vp-p
R948
100
C904
470P
R915
10K
Q987
R998 2SC1815Y
36
I901#35
R927
300
I903 MTV038N20
GA
Vcc
Rp.
5V
H.
SDA1
SCL1
R.
G.
R997 36
I901#32
R996 36
I901#29
6.9Vp-p
R994 100
SCL1
R993 100
SDA1
C971
820P
50V
C970
0.01U
R970
5K6
R974
3K3
C972
0.01U
R991
390K
R978
3K3
R949
100
Q988
C912
100P
50V
R982
R929
100
R928
51
C979
0.1U
C973
100U
25V
C958
100U
10V
C958A
0.1U
50V
5VA
R919A
R919
2.8Vp-p
40Vp-p
I904
LM2435
B
R
G
C907B
0.1U
100V
C907
47U
100V
81V
L971
BEAD
2.5X3X1
R973
43 1/4W
D964
1S133
D963
BAV21
D933
BAV21
L941
BEAD
2.5X3X1
R943
24 1/4W
D934
1S133
D903
BAV21
L911
BEAD
2.5X3X1
R913
62 1/4W
D904
1S133
D973
1N4148
D943
1N4148
D913
1N4148
C963
1U 200V
C933
1U 200V
C903
1U 200V
L906
BEAD
L926
CHK-198
C937
1000P
1KV
C906
0.1U
100V
C936
0.1U
50V
C934
330U
16V
C919A
0.01U
12V
R977
62K
1W
R965A
130K
R965
8K2
L965
RH03506
R976
1M
1/4W
R972
13K
1/4W
Q963
BF422
C965
10U
100V
R947
62K
1/4W
R935A
130K
R935
8K2
L935
RH03506
R946
1M
1/4W
R942
13K
Q933
BF422
C935
10U
100V
R916
1M
1/4W
R917
62K
1W
R905A
130K
R905
8K2
L905
RH03506
C922
1000P
500V
R912
13K
1/4W
Q903
BF422
C905
10U
100V
191V
P902
R918A
3K9
Q910
2SC1815Y
R918
1K8
1/4W
R910
390
C927
0.01U
50V
12Vp-p
P903
TO P302
H.BLK
V.BLK
BRI
P904
TO PA03
SDA1
SCL1
V901
M46QCK761X123(SAMSUNG)
M46AJS53X76MV(CPT)
TCO/MDT
KB
KR
H
G
KG
G1
G2
CRT
L972
0.56UH
R968
43 1/4W
40Vp-p
Z974
1P
200V
L942
0.56UH
R938
43 1/2W
Z944
1P
200V
L912
0.56UH
R908
43 1/4W
Z914
1P
200V
D966
L953
10UH
C954
0.1U
P922
R952A
10
1W
C926A
100P
1KV
Z952
1PF
1KV
CRT GROUND
P906
TO FBT
G2
C926
4700P
1KV
R952
1M
1/2W
C926B
180P
1KV
175Vp-p
L980A
6X3
RH03506SFB
P902
G1
C933A
560P
500V
C950
18P
500V
Z901
1PF
300V
R921
150
1/2W
R950
680K
C953
0.1U
50V
C953A
100U
16V
C916
1500P
500V
R930
2.7
3W
7V
MODEL NO :VCDTS23307-2R(F19FSVZ)
P.C.B. NO : PWB-0414 B
Drawn by :
T.H.HUANG
APPROVED BY :
T.H.LIN
DATE
ORININAL : 2002/06/20
UPDATE : 2002/08/15
VER :1

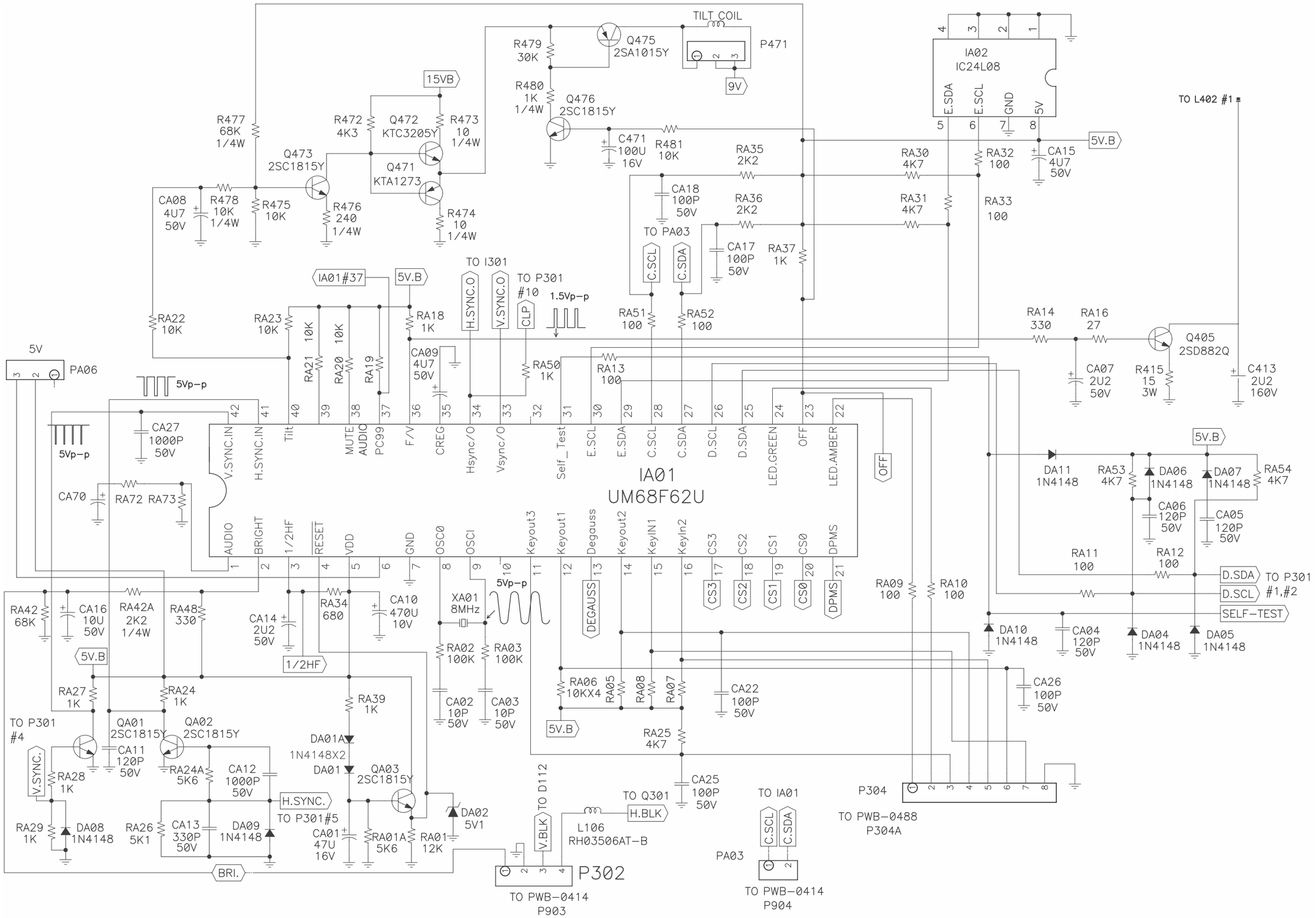
KEY CORTROL


A
B
C
D
1
2
3
4
5V IA01#6
PA06A
TO PA06
RA60
CB60
DA1
AMBER
GREEN
LA
LG
KO3
KO2
KI2
KO1
KI1
GND
P304A
TO PWB-0334 P304
CB25
SA05
SEL1
CB08
SA04
DOWN
SA02
SEL2
SA06
AUTO
SIZING
CB05
CB06
SA01
POWER
SA03
UP
SA07
HIGH
BRIGHT
CB07
MODEL NO : VCDTS23307-2R
P.C.B. NO : PWB-0488
Drawn by : S.N.CHA
APPROVED BY : T.H.LIN
DATE
ORININAL : 2002/06/20
UPDATE :
VER : A

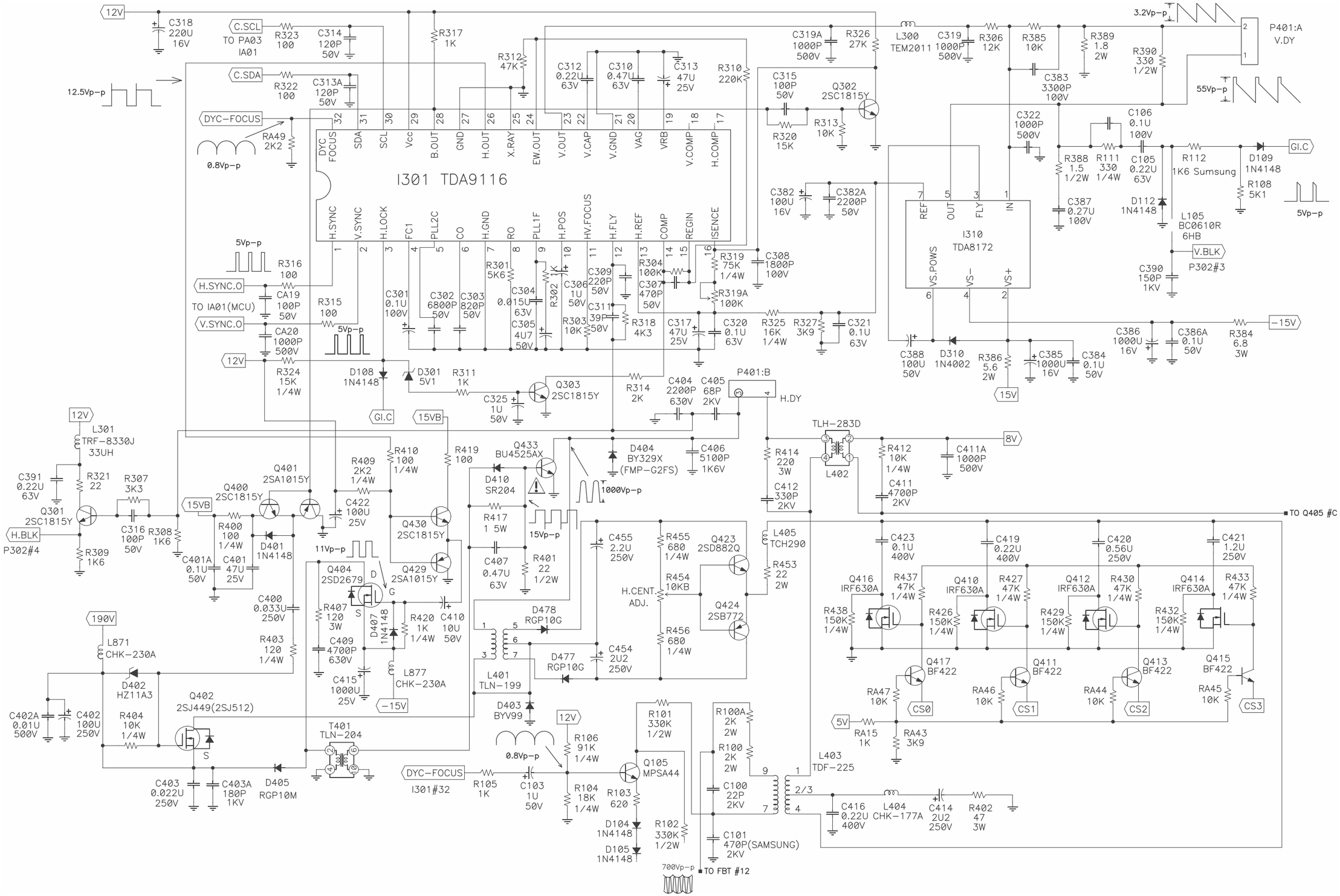
POWER SUPPLY CKT



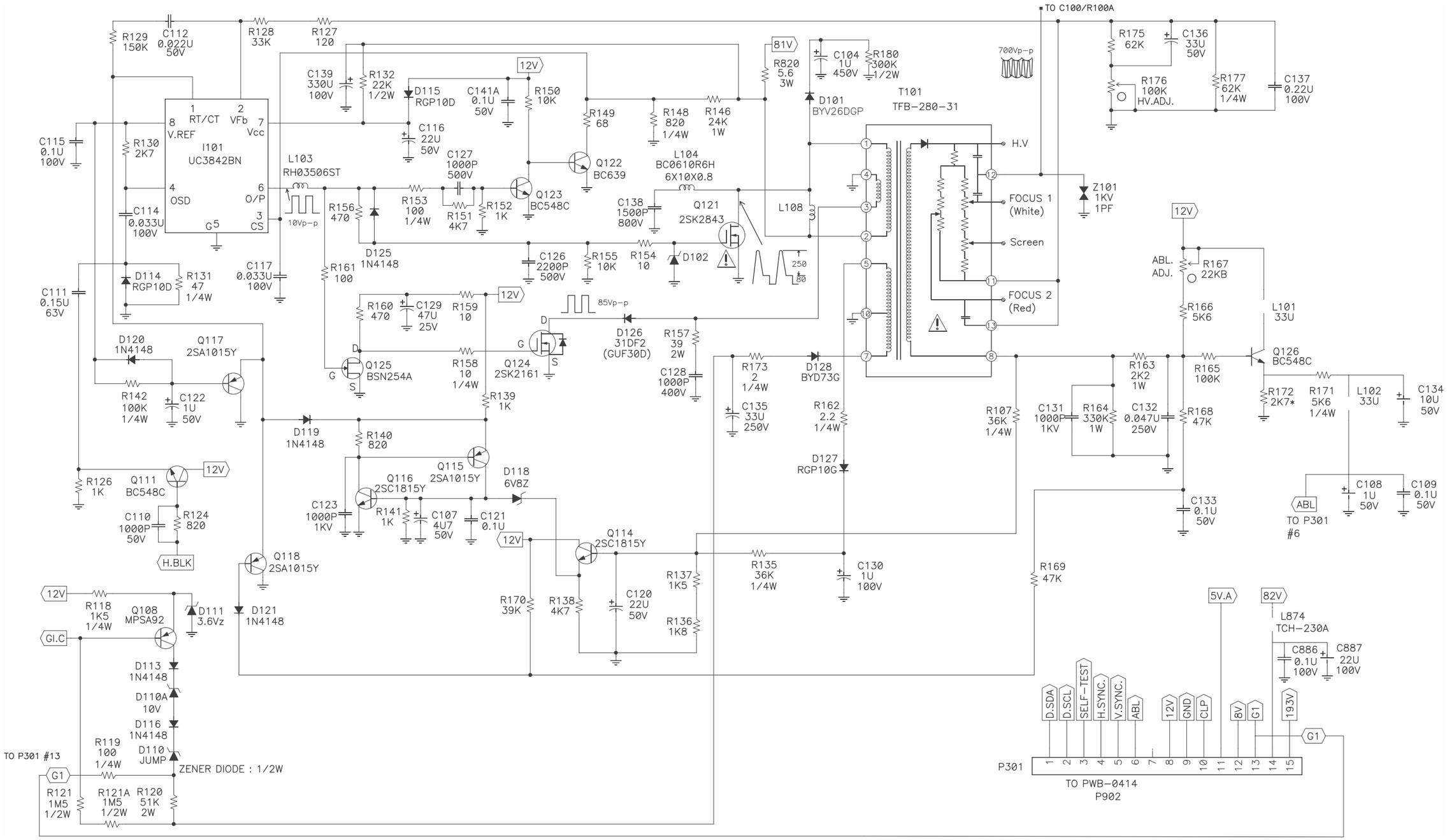
MCU CONTROL CKT



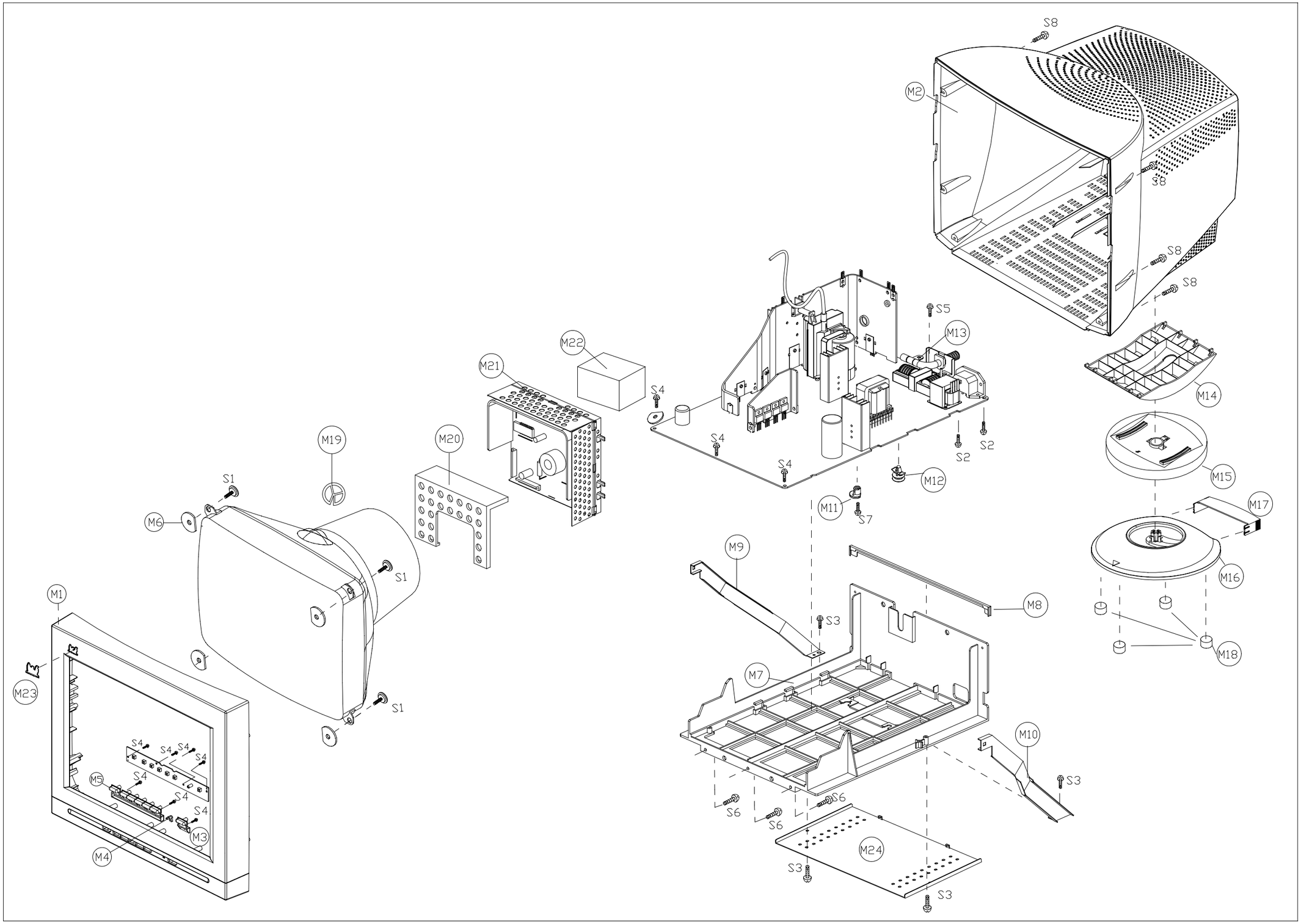
Time Base & DeflectionCKT



H.V & DYNAMIC FOCUS CKT



14. Exploded Diagram



A90f+-1 Mechanical parts list

NO.		DESCRIPTION	PART NO.	QTY
M1	C-FP-0301-0899	FRONT COVER (A90F+)	5642289300	1
M2	C-BC-0302-0439	BACK COVER (A90F+)	5642271022	1
M3	PL-BT-0706-0111	POWER KEY (A90F+)	5642847300	1
M4	M-MS-0808-7981	POWER LIGHT PIPE	5640328200	1
M5	PL-FK-0709-0109	FUNCTION KEY (A90F+)	5642847400	1
M6	M-MS-0808-7971	RUBBER WASHER	5642020000	4
M7	M-MS-0808-8292	MAIN CHASSIS (A90F+)	5648203514	1
M8	M-MS-0808-7972	FASTENING-CHASSIS	5642719000	1
M9	M-MS-0808-7973	LEFT METAL BRACKET	5648729300	1
M10	M-MS-0808-7974	RIGHT METAL BRACKET	5648729400	1
M11	M-MS-0808-7975	FBT CLIP	5642671901	1
M12	M-MS-0808-7976	PCB SUPPORT	5642670100	1
M13	M-MS-0808-6658	CLAMP SIGNAL CABLE	5648002600	1
M14	M-MS-0808-8291	TILT FRAME (A90F+)	5641406010	1
M15	PL-TB-0717-0111	SWIVEL DISH (A90F+)	5641406110	1
M16	PL-PS-0715-0170	BASE (A90F+)	5641409603	1
M17	M-CV-0830-2334	USB COVER (A90F+)	5642314903	1
M18	PL-PD-0714-0057	FOOT PAD	5642022700	4
M19	M-MS-0808-8019	RING CABLE	5642655600	1
M20	M-CV-0830-0222	COVER FOR CRT DRIVE SHIELD	5646246900	1
M21	M-MS-0808-6646	DRIVE CADR SHIELD PLATE	5646246301	1
M22	M-MS-0808-7979	SPONGE	5642021705	1
M23	M-MS-0808-7575	VIEWSONIC DECORATE	5642417700	1
M24	M-MS-0808-8229	BOTTOM METAL BRACKET	5648735600	1
S1	M-SCW-0824-0525	SCREW PHB+CW+RW M5x24	7190561001	4
S2	M-SCW-0824-0523	SCREW PZP M4x10	7134251482	2
S3	M-SCW-0824-0628	SCREW PZP M4x12	7134251652	4
S4	M-SCW-0824-0629	SCREW BTBW M3x10	7000305022	10
S5	M-SCW-0824-0630	SCREW C PAN M4x10	7001261412	1
S6	M-SCW-0824-0524	SCREW PZP M4x14	7134251982	3
S7	M-SCW-0824-0631	SCREW BRB M3x12	7033161652	1
S8	M-SCW-0824-0632	SCREW PZP M4x20	7134252582	6