

LG

COLOR MONITOR

SERVICE MANUAL

CHASSIS NO. : CA-122

FACTORY MODEL: FB990G

MODEL: FLATRON F900B (FB990G-UL)

CAUTION

BEFORE SERVICING THE UNIT,
READ THE **SAFETY PRECAUTIONS** IN THIS MANUAL.



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SPECIFICATIONS

1. PICTURE TUBE

Size	: 19 inch (Flat Slot Mask)
Deflection Angle	: 90°
Neck Diameter	: 29.1 mm
Strip Pitch	: 0.24 mm
Diagonal Size	: 457.5 mm
View Size	: 366.0 x 274.5 mm
Face Treatment	: AR-ASC (Anti-Reflective and Anti-Static Coating)

2. SIGNAL

2-1. Horizontal & Vertical Sync

- 1) Input Voltage Level : Low= $\leq 0.8V$, High= $\geq 2.1V$
- 2) Sync Polarity : Positive or Negative

2-2. Video Input Signal

- 1) Voltage Level : 0 ~ 0.7 Vp-p
 - a) Color 0, 0 : 0 Vp-p
 - b) Color 7, 0 : 0.467 Vp-p
 - c) Color 15, 0 : 0.7 Vp-p
- 2) Input Impedance : 75 Ω
- 3) Video Color : R, G, B Analog
- 4) Signal Format : Refer to the Timing Chart

2-3. Signal Connector

15 Pin D-Sub Connector

2-4. Scanning Frequency

Horizontal	: 30 ~ 98 kHz
Vertical	: 50 ~ 160 Hz

3. POWER SUPPLY

3-1. Power Range

AC 100~240V, 50/60HZ, 2.5A Max
AC 200~240V, 50Hz, 1.5A Max.(PFC version)

3-2. Power Consumption

MODE	H/V SYNC	POWER CONSUMPTION (USB)	LED COLOR
MAX		less than 120W (140W)	GREEN
STAND-BY	OFF/ON	less than 8W (30W)	ORANGE
SUSPEND	ON/OFF	less than 8W (30W)	
OFF	OFF/OFF	less than 1W (20W)	ORANGE

4. DISPLAY AREA

4-1. Active Video Area :

- Max Image Size - 366.0 x 274.5mm (14.40" x 10.80")
- Preset Image Size - 350 x 262 mm (13.78" x 10.31")

4-2. Display Color : Full Colors

4-3. Display Resolution : 1600 Dots x 1200Lines/75Hz

4-4. Video Bandwidth : 203MHz

5. ENVIRONMENT

- 5-1. Operating Temperature: 0°C ~ 40°C (32°F ~ 103°F)
(Ambient)
- 5-2. Relative Humidity : 10% ~ 90%
(Non-condensing)
- 5-3. Altitude : 10,000 ft

6. DIMENSIONS (with TILT/SWIVEL)

Width	: 466.6 mm (18.37")
Depth	: 472.5 mm (18.60")
Height	: 474 mm (18.66")

7. WEIGHT (with TILT/SWIVEL)

Net Weight	: 23.5 kg (51.82 lbs)
Gross Weight	: 27 kg (59.52 lbs)

8. USB Specifications

USB Standard	: Rev. 1.0 complied self-powered hub
Downstream power supply	: 500mA for each (MAX)
Communication speed	: 12 Mbps (Full), 1.5 Mbps (Low)
USB port	: 1 Upstream port 2 Downstream ports

SAFETY PRECAUTIONS

SAFETY-RELATED COMPONENT WARNING!

There are special components used in this color monitor which are important for safety. ***These parts are marked  on the schematic diagram and the replacement parts list.*** It is essential that these critical parts should be replaced with the manufacturer's specified parts to prevent X-radiation, shock, fire, or other hazards. Do not modify the original design without obtaining written permission from manufacturer or you will void the original parts and labor guarantee.

CAUTION: No modification of any circuit should be attempted.

Service work should be performed only after you are thoroughly familiar with all of the following safety checks and servicing guidelines.

SAFETY CHECK

Care should be taken while servicing this color monitor because of the high voltage used in the deflection circuits. These voltages are exposed in such areas as the associated flyback and yoke circuits.

FIRE & SHOCK HAZARD

An isolation transformer must be inserted between the color monitor and AC power line before servicing the chassis.

- In servicing, attention must be paid to the original lead dress specially in the high voltage circuit. If a short circuit is found, replace all parts which have been overheated as a result of the short circuit.
- All the protective devices must be reinstalled per the original design.
- Soldering must be inspected for the cold solder joints, frayed leads, damaged insulation, solder splashes, or the sharp points. Be sure to remove all foreign materials.

IMPLOSION PROTECTION

All used display tubes are equipped with an integral implosion protection system, but care should be taken to avoid damage and scratching during installation. Use only same type display tubes.

X-RADIATION

The only potential source of X-radiation is the picture tube. However, when the high voltage circuitry is operating properly there is no possibility of an X-radiation problem. The basic precaution which must be exercised is keep the high voltage at the factory recommended level; the normal high voltage is about 27kV. The following steps describe how to measure the high voltage and how to prevent X-radiation.

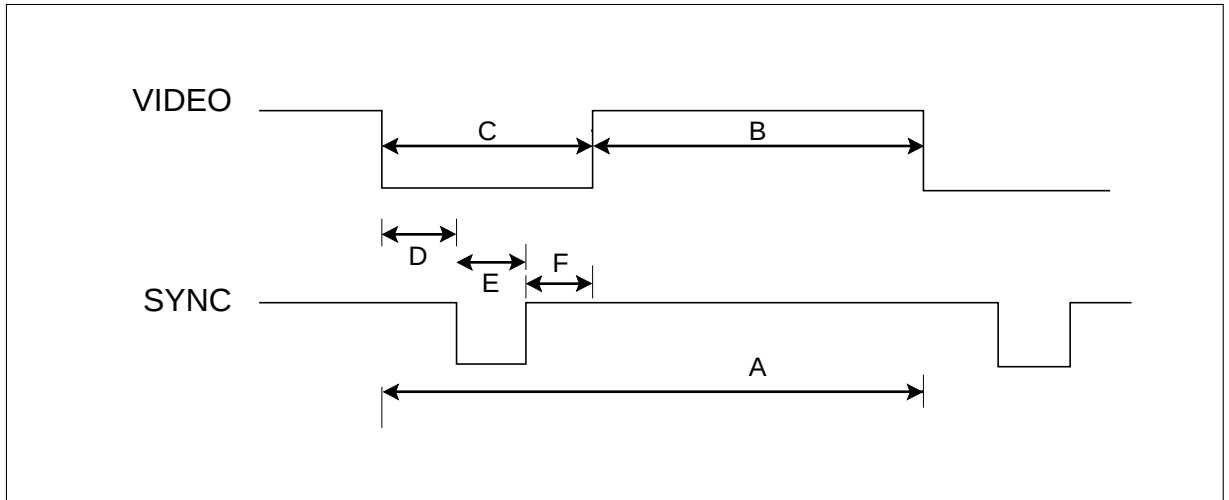
Note : It is important to use an accurate high voltage meter calibrated periodically.

- To measure the high voltage, use a high impedance high voltage meter, connect (–) to chassis and (+) to the CDT anode cap.
- Set the brightness control to maximum point at full white pattern.
- Measure the high voltage. The high voltage meter should be indicated at the factory recommended level.
- If the meter indication exceeds the maximum level, immediate service is required to prevent the possibility of premature component failure.
- To prevent X-radiation possibility, it is essential to use the specified picture tube.

CAUTION:

Please use only a plastic screwdriver to protect yourself from shock hazard during service operation.

TIMING CHART



MODE			FACTORY PRESET MODE					
			MARK	MODE 1	MODE 2	MODE 3	MODE 4	MODE 5
				VESA				
H O R I Z O N T A L	Sync Polarity			–	+	+	+	+
	Frequency	kHz		43.269	53.674	68.677	91.146	93.750
	Total Period	μs	A	23.112	18.631	14.561	10.971	10.666
	Video Active Time	μs	B	17.778	14.222	10.836	8.127	7.901
	Blanking Time	μs	C	5.334	4.409	3.725	2.844	2.765
	Front Porch	μs	D	1.556	0.569	0.508	0.406	0.316
	Sync Duration	μs	E	1.556	1.138	1.016	1.016	0.948
	Back Porch	μs	F	2.222	2.702	2.201	1.422	1.501
V E R T I C A L	Sync Polarity			–	+	+	+	+
	Frequency	Hz		85.008	85.061	84.997	85.024	75.000
	Total Period	ms	A	11.763	11.756	11.765	11.762	13.333
	Video Active Time	ms	B	11.093	11.178	11.183	11.235	12.800
	Blanking Time	ms	C	0.670	0.578	0.582	0.527	0.533
	Front Porch	ms	D	0.023	0.019	0.015	0.011	0.011
	Sync Duration	ms	E	0.069	0.056	0.044	0.033	0.032
	Back Porch	ms	F	0.578	0.503	0.523	0.483	0.490
Resolution				640 X 480 85Hz	800 X 600 85Hz	1024 X 768 85Hz	1280 X 1024 85Hz	1600 X 1200 75Hz
Recall				Yes	Yes	Yes	Yes	Yes

OPERATING INSTRUCTIONS

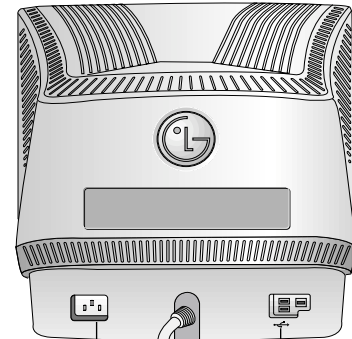
FRONT VIEW



See Front Control Panel

Power Button

REAR VIEW

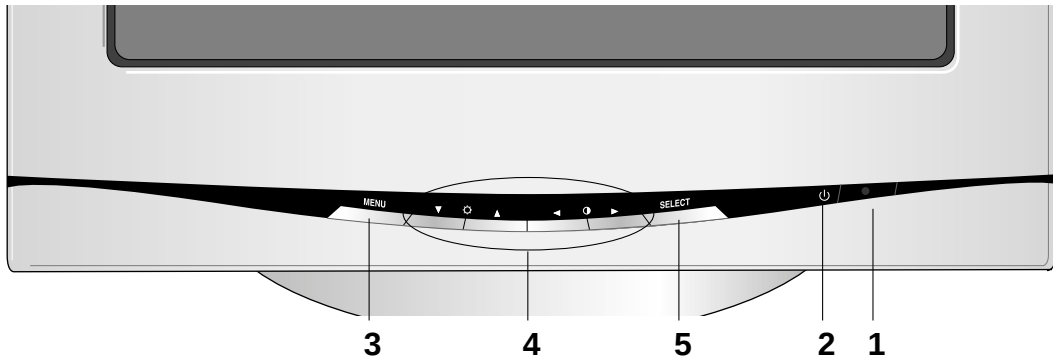


AC Power Socket

D-Sub Signal Connector

USB port

Front Control Panel



1. Power Button

This button is used to turn the monitor ON and OFF.

2. Power Indicator

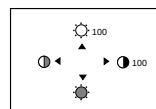
This Indicator lights up green when the monitor operates normally. If the monitor is in stand-by, suspend or DPMS off mode, this indicator color changes to amber.

3. MENU (or OSD) Button

Use this button to enter or exit the on screen display.

4. ▲▼/◀▶ Button

Use these buttons to choose or adjust items in the on screen display.



◀▶ Button Bring up Contrast adjustment

▲▼ Button Bring up Brightness adjustment

The Contrast and Brightness functions are also available in the On Screen Display (OSD) menu.

5. SELECT Button

Use this button to enter a selection in the on screen display.

Universal Serial Bus

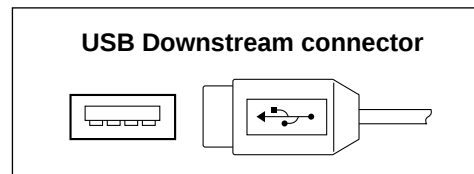
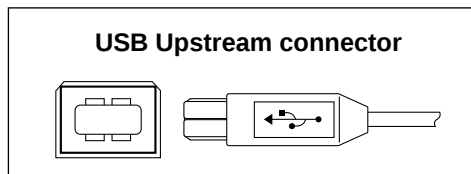
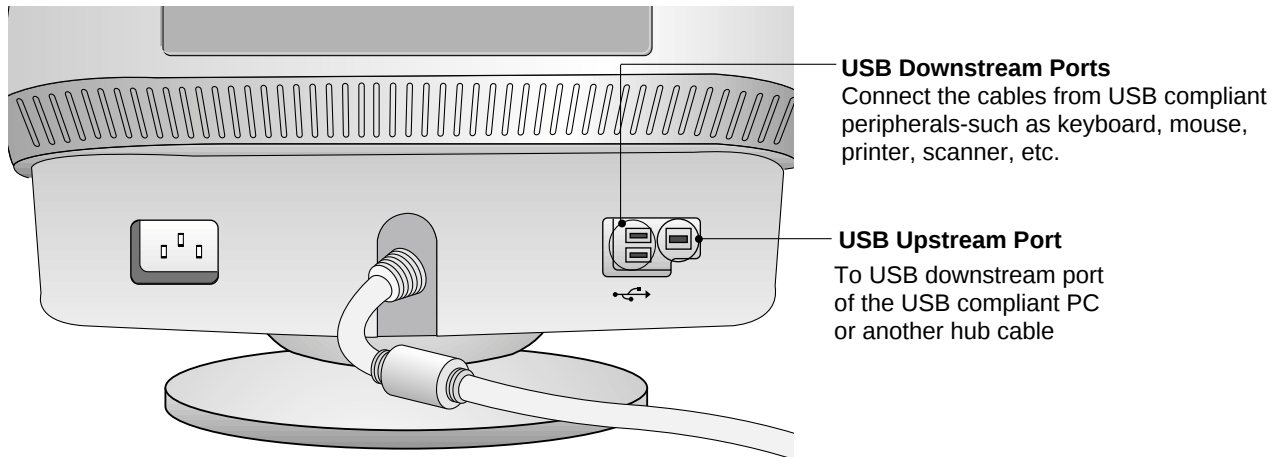
Making use of USB (Universal Serial Bus)*

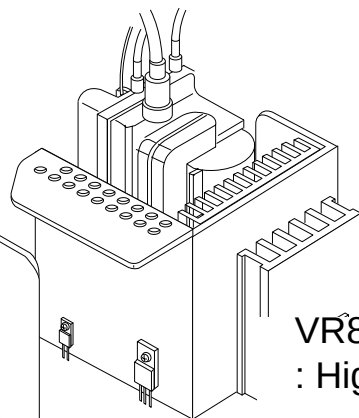
USB(Universal Serial Bus) is an innovation in connecting your different desktop peripherals conveniently to your computer. By using the USB, you will be able to connect your mouse, keyboard, printer, and other peripherals to your monitor instead of having to connect them to your computer. This will give you greater flexibility in setting up your system. USB allows you to connect chain up to 120 devices on a single USB port, and you can “hot” plug (attach them while the computer is running) or unplug them while maintaining Plug and Plug auto detection and configuration. This monitor has an integrated self-powered USB hub, allowing up to 2 other USB devices to be attached it.

USB connection (Option)

- (1) Connect the upstream port of the monitor to the downstream port of the USB compliant PC or another hub using the USB cable.
- (2) Connect the USB compliant peripherals to the downstream ports the monitor.

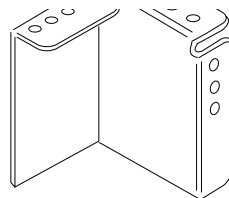
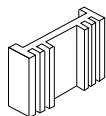
*USB(Universal Serial Bus) is supported WINDOWS98 and Higher.





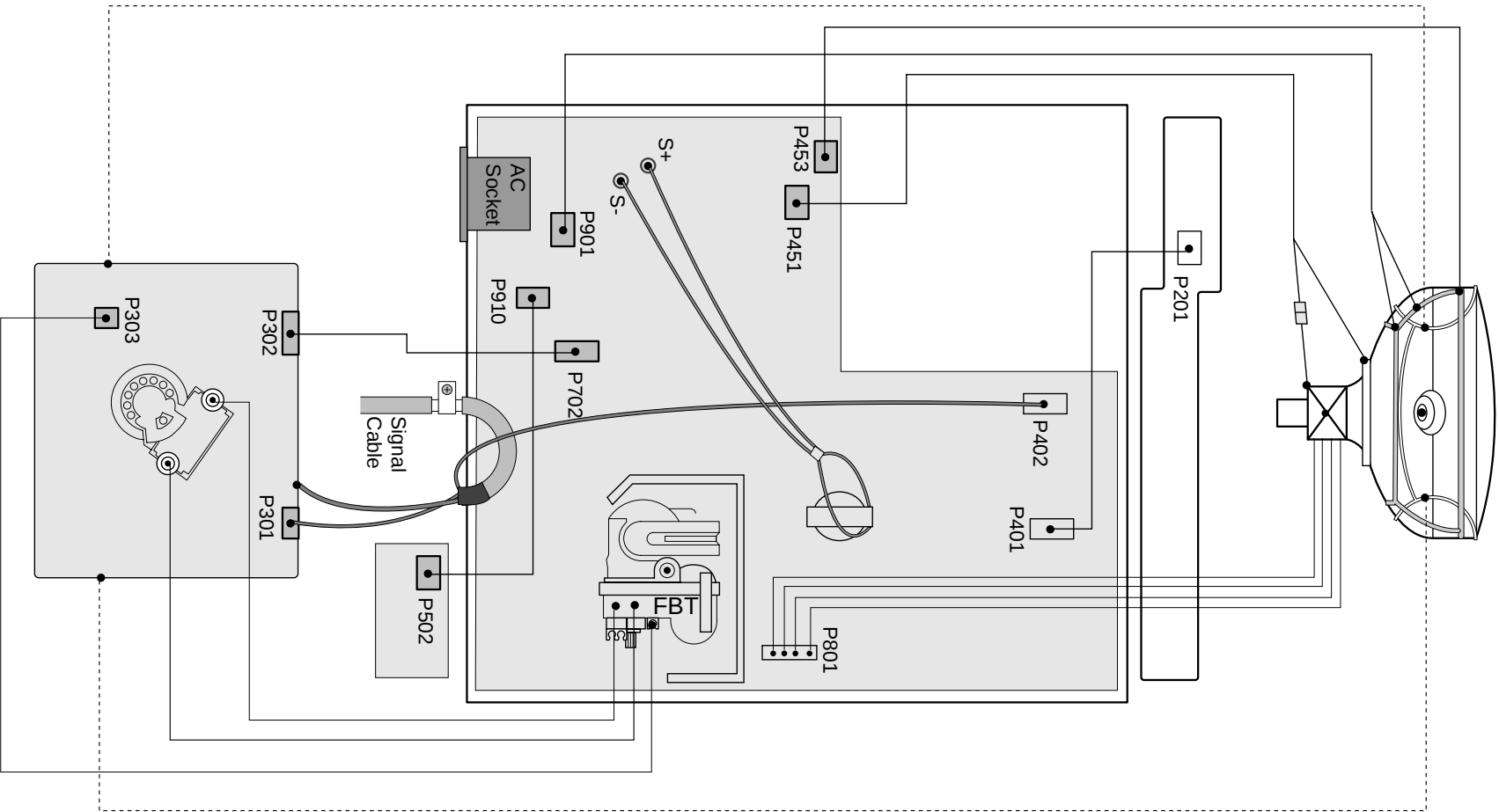
VR801

: High Voltage Adjustment (27kV)



VR901

: B⁺ Adjustment (190V Line)



1. TILT/SWIVEL & BACK COVER REMOVAL

- 1) Set the monitor face downward.
- 2) Carefully remove the Tilt/Swivel by pulling it upward.
- 3) Remove two screws (a).
- 4) Pressing the latch (b), Back cover by pushing it upward. (See Figure. 1)
- 5) Release the latch (c). (See Figure. 2 and Tip Spec.)
- 6) Slide the Back Cover away from the Front Cabinet of the monitor.

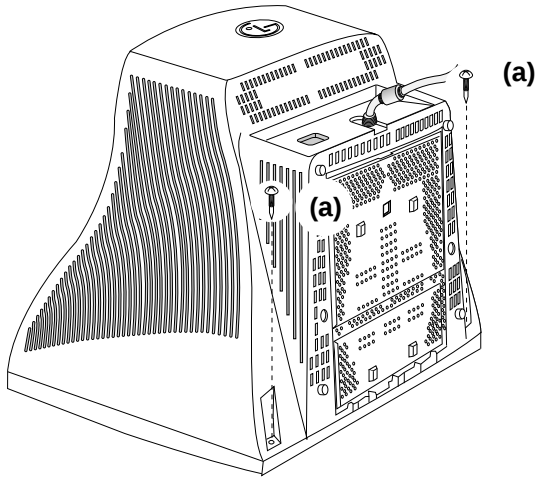


Figure. 1

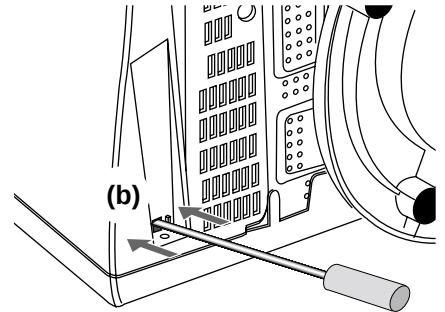
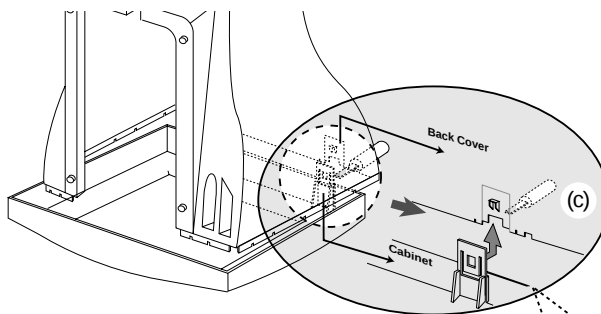


Figure. 2

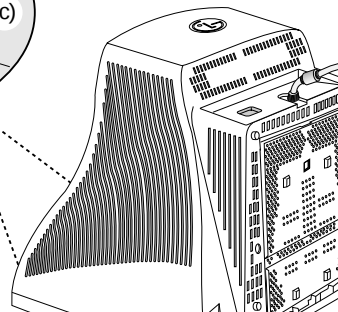
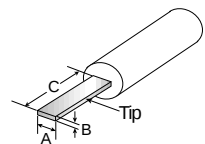


Tip Spec.

A(Width) : 5.0~15.0mm

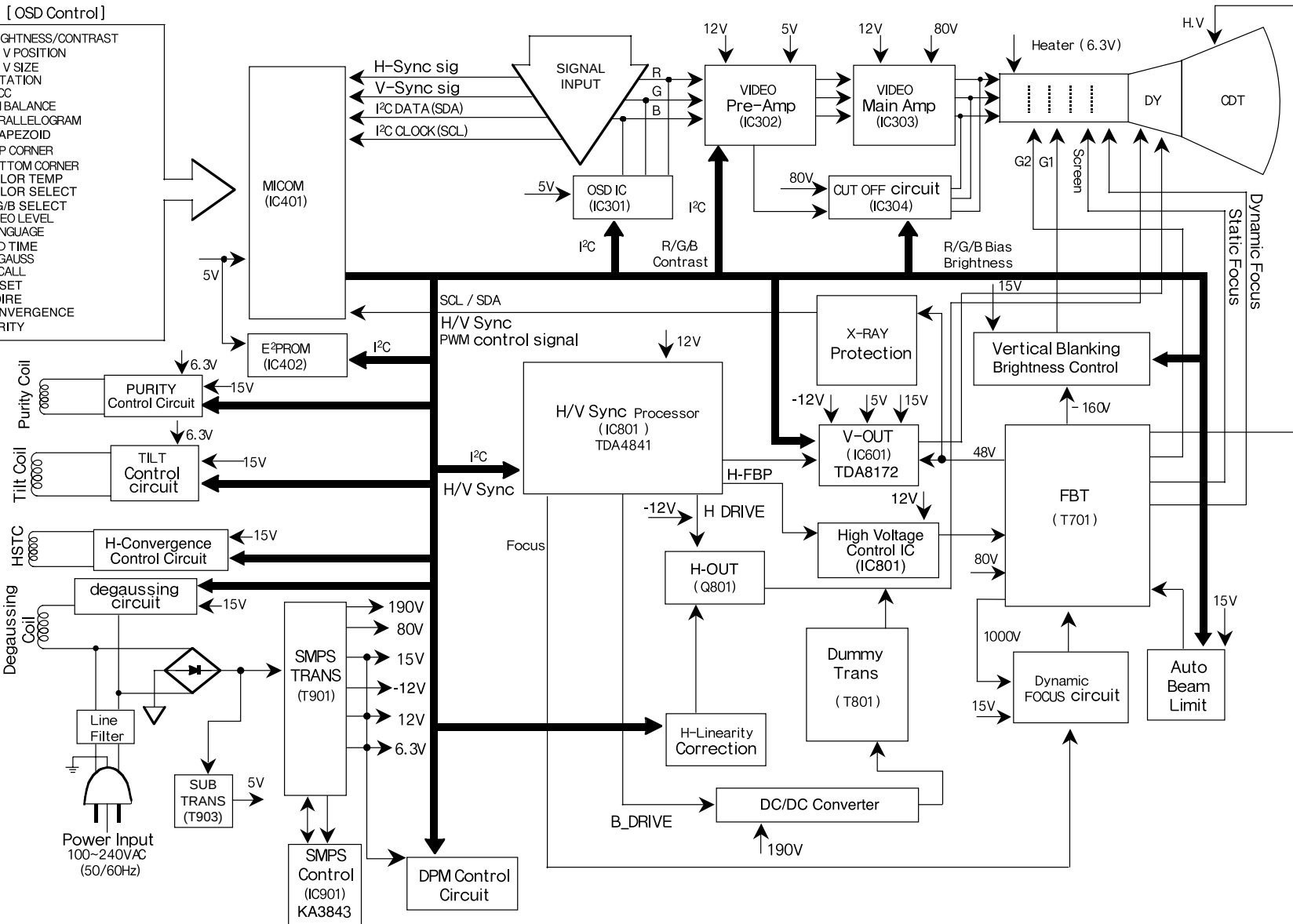
B(Depth) : 0.6~0.9mm

C(Height) : 12.0mm



[OSD Control]

BRIGHTNESS/CONTRAST
H / V POSITION
H / V SIZE
ROTATION
SPCC
PIN BALANCE
PARALLELOGRAM
TRAPEZOID
TOP CORNER
BOTTOM CORNER
COLOR TEMP
COLOR SELECT
R/G/B SELECT
VIDEO LEVEL
LANGUAGE
OSD TIME
DEGAUSS
RECALL
RESET
MOIRE
CONVERGENCE
PURITY



DESCRIPTION OF BLOCK DIAGRAM

1. Line Filter & Associated Circuit.

This is used for suppressing noise of power input line flowing into the monitor and/or some noise generated in this monitor flowing out through the power input line.

That is to say, this circuit prevents interference between the monitor and other electric appliances.

2. Degauss Circuit & Coil.

The degauss circuit consists of the degaussing coil, the PTC (Positive Temperature Coefficient) thermistor (TH901), and the relay (RL901). This circuit eliminates abnormal color of the screen automatically by degaussing the slot mask in the CDT when turn on the power switch.

When you need to degauss while using the monitor, select DEGAUSS on the OSD menu.

3. SMPS (Switching Mode Power Supply).

This circuit works with power of 100~240V or 200~240V (50/60Hz) specially for PFC version.

The operation procedure is as follows:

- 1) AC input voltage is rectified and smoothed by the bridge diode (D901) and the capacitor (C905).
- 2) The rectified voltage (DC voltage) is applied to the primary coil of the transformer (T901).
- 3) The control IC (IC901) generates switching pulse to turn on and off the primary coil of the transformer (T901) repeatedly.
- 4) Depending on the turn ratio of the transformer, the secondary voltages appear at the secondary coil of the transformer (T901).
- 5) These secondary voltages are rectified by each diode (D924, D926, D923, D922, D921, D920) and operate the other circuits. (Deflection, Video Amplifier, etc.)

4. Display Power Management Circuit.

This circuit control power consumption of the monitor by detecting H and V sync signal. There are stand-by and suspend mode. When no horizontal or vertical sync signal input, the circuit consists of Q913, Q915 and IC401 control signal becomes stand-by and suspend mode. It's power consumption is below 8W. When no horizontal and vertical sync signal input, it's power consumption is below 1W.

5. X-ray Protection.

This circuit detects the rectified DC voltage comes from the FBT pin 4. If the high voltage of the FBT reaches up to about 30kV (abnormal state), H.V control (IC802) detects. It stops B⁺ voltage supplied to the FBT (T701), and high voltage is not be generated, (In the normal state, the high voltage is about 26kV.)

6. Micom(Microprocessor) Circuit.

The operating procedure of Micom (Microprocessor) and its associated circuit is as follows:

- 1) H and V sync signal is supplied from Signal Cable to the Micom (IC401).
- 2) The Micom (IC401) distinguishes polarity and frequency of H and V sync.
- 3) The Micom controls each OSD function signals. (H-size, H-position, V-size, etc.)
- 4) The controlled data of each mode is stored in IC402. User can adjust screen condition by each OSD function. The data of the adjust screen condition is stored automatically.

7. Horizontal and Vertical Synchronous Processor.

This circuit generates the horizontal drive pulse and the vertical drive pulse by taking sync-signal from Signal Cable. This circuit consists of the TDA4841 (IC801) and the associated circuit.

8. Oscillating Circuit for D/D Converter.

This circuit generates the pulse wave which has the horizontal period by taking the output of the TDA4841(IC801).

9. D/D (DC to DC) Converter.

This circuit supplies DC voltage to the horizontal deflection output circuit by decreasing DC 190V which is the secondary voltage of the SMPS in accordance with the input horizontal sync signal.

10. D/D Drive & Convert Circuit.

This circuit is used for supplying B⁺ voltage to horizontal deflection output transistor (Q801).

11. Horizontal Deflection Output Circuit.

This circuit makes the horizontal deflection by supplying the saw-tooth current to the horizontal deflection yoke.

12. High Voltage Output & FBT (Flyback Transformer).

The high voltage output circuit is used for generating pulse wave to the primary coil of the FBT (Flyback Transformer (T701)). A boosted voltage (about 27kV) appears at the secondary of the FBT and it is supplied to the anode of the CDT.

And there are another output voltages such as the dynamic focus voltage.

13. H-Linearity Correction Circuit.

This circuit corrects the horizontal linearity for each horizontal sync frequency.

14. Vertical Output Circuit.

This circuit takes the vertical wave from the TDA4841(IC801) and performs the vertical deflection by supplying the saw-tooth wave current from the TDA8172 (IC601) to the vertical deflection yoke.

15. Dynamic Focus Output Circuit.

This circuit takes H and V parabola wave from the TDA4841(IC801), and amplifies these waves to offer to the FBT (T701).

16. H & V Blanking and Brightness Control.

This circuit eliminates the retrace line by supplying a negative pulse to the G1 of the CDT.

17. Image Rotation (Tilt) Circuit.

This circuit corrects the tilt of the screen by supplying the image rotation signal to the tilt coil which is attached to the CDT near the deflection.

18. Static Convergence Control Circuit.

This circuit corrects the convergence of the screen by supplying the convergence signal to the 4H (STC) coil which is attached to the CDT near the deflection.

19. Moire Reduction Circuit

This circuit reduce interference between the periodical display pattern and the CDT's slot (or dot).

The positions of every other one dot video signal beams (red, green, and blue beam) are shifted finely, thus reducing interference.

20. OSD Circuit.

This circuit is used for performing the OSD (On-Screen- Display) function.

When a user selects the OSD Select/Adjustment control, the adjustment status displays on the screen.

21. Video Pre-Amp Circuit.

This circuit amplifies the analog video signal from 0-0.7V to 0-4V. This circuit is operated by taking the clamp, R, G, B drives, and contrast signals from the Micom (IC401).

22. Video Output Amp Circuit.

This circuit amplifies the video signal which comes from the video pre-amp circuit and amplified video signal is applied to the CDT cathode.

23. NS-Purity Circuit.

This circuit corrects the purity of screen by supplying the purity signal to the purity coil which is combined with degaussing coil.

ADJUSTMENT

GENERAL INFORMATION

All adjustment are thoroughly checked and corrected when the monitor leaves the factory, but sometimes several adjustments may be required.

Adjustment should be following procedure and after warming up for a minimum of 30 minutes.

- Alignment appliances and tools.
 - IBM compatible PC.
 - Programmable Signal Generator.
(eg. VG-819 made by Astrodesign Co.)
 - EPROM or EEPROM with saved each mode data.
 - Alignment Adaptor and Software.
 - Digital Voltmeter.
 - White Balance Meter.
 - Luminance Meter.
 - High-voltage Meter.

AUTOMATIC AND MANUAL DEGAUSSING

The degaussing coil is mounted around the CDT so that automatic degaussing when turn on the monitor. But a monitor is moved or faced in a different direction, become poor color purity cause of CDT magnetized, then press DEGAUSSING on the OSD menu.

ADJUSTMENT PROCEDURE & METHOD

- Install the cable for adjustment such as Figure 1 and run the alignment program on the DOS for IBM compatible PC.
- Set external Brightness and Contrast volume to max position.

1. Adjustment for B⁺ Voltage.

- 1) Display cross hatch pattern at Mode 4.
- 2) Adjust C921 (+) voltage to $190V \pm 0.2V$ with **VR901**.

2. Adjustment for High-Voltage.

- 1) Display cross hatch pattern at Mode 4.
- 2) Adjust CDT Anode voltage to $27kV \pm 0.2kV$ with **VR801**.

3. Adjustment for Horizontal Raster Center.

- 1) Display cross hatch pattern at Mode 4.
- 2) Adjust the Back Raster should be center of the screen with SW801.

4. Adjustment for Factory Mode (Preset Mode).

- 1) Display cross hatch pattern at Mode 1~5.
- 2) Run alignment program for FB990G on the IBM compatible PC.

- 3) EEPROM → ALL CLEAR → Y(Yes) command.

<Caution> Do not run this procedure unless the EEPROM is changed. All data in EEPROM (mode data and color data) will be erased.

- 4) COMMAND → PRESET START → Y(Yes) command.
- 5) DIST. ADJ. → FOS. ADJ command.
- 6) Adjust H-POSITION as arrow keys to center of the screen.
- 7) Adjust H-SIZE as arrow keys to $350 \pm 2mm$.
- 8) Adjust V-POSITION as arrow keys to center of the screen.
- 9) Adjust V-SIZE as arrow keys to $262 \pm 2mm$.
- 10) Adjust TRAPEZOID as arrow keys to be the best condition.
- 11) Adjust TILT as arrow keys to be the best condition.
- 12) Display cross hatch pattern at Mode 4.
- 13) DIST. ADJ. → BALANCE DATA command.
- 14) Adjust balance of Pin-Balance as arrow keys to be the best condition.
- 15) Adjust parallelogram as arrow keys to be the best condition.
- 16) Save of the Mode.
- 17) Save of the System.
- 18) Display from Mode 4 and repeat above from number 6) to 15).
- 19) COMMAND → PRESET EXIT → Y (Yes) command.

5. Adjustment for White Balance and Luminance.

- 1) Set the White Balance Meter.
- 2) Press the DEGAUSSING on the OSD menu for demagnetization of the CDT.
- 3) Display color 0,0 pattern at Mode 4.
- 4) COMMAND → PRESET START → Y(Yes) command.
- 5) Set Brightness and Contrast to max position.
- 6) COLOR ADJ. → LUMINANCE command of the alignment program.
- 7) COLOR ADJ. → BIAS ADJ. command of the alignment program.
- 8) Check whether blue color or not at R-BIAS and G-BIAS to min position, Sub-Brightness to 90 position, B-BIAS to 70 position. If it's not blue color, the monitor must repair.
- 9) Adjust Screen control on the FBT to $0.15 \pm 0.02FL$ of the raster luminance.
- 10) Adjust R-BIAS and G-BIAS command to $x=0.283 \pm 0.006$ and $y=0.298 \pm 0.006$ on the White Balance Meter with PC arrow keys.

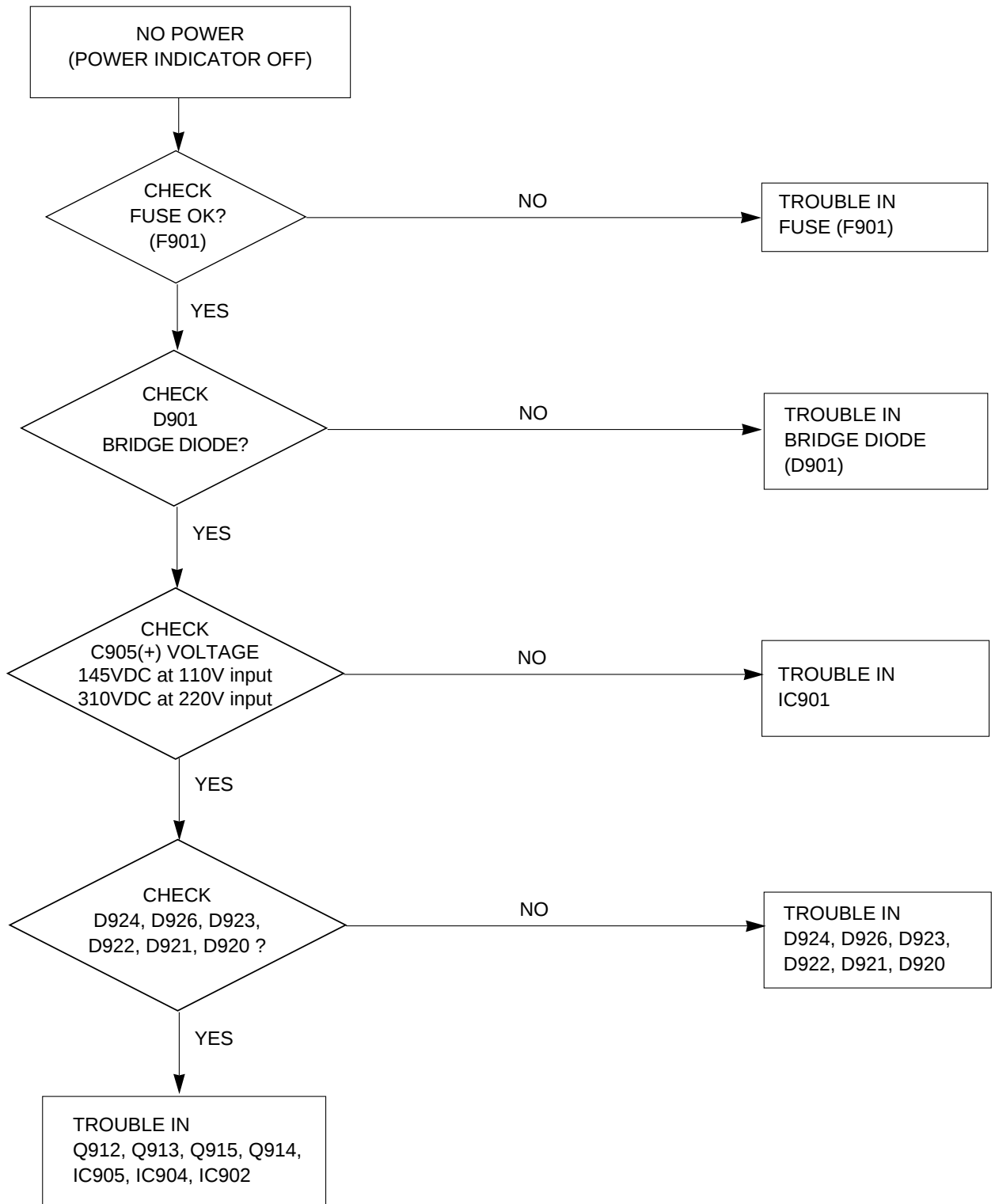
- 11) Display color 15,0 box pattern(70x70mm) at mode 4.
- 12) DRIVE ADJ command.
- 13) Set B-DRIVE to 97 at DRIVE of the alignment program.
- 14) Adjust R-DRIVE and G-DRIVE command to white balance $x=0.283 \pm 0.003$ and $y=0.298 \pm 0.003$ on the White Balance Meter with PC arrow keys.
- 15) Adjust SUB-CONTRAST command to $40 \pm 1\text{FL}$ of the raster luminance.
- 15) Display color 15,0 full white patten at Mode 4.
- 16) COLOR ADJ. → LUMINANCE → ABL command.
- 17) Adjust ABL to $30 \pm 1\text{FL}$ of the luminance.
- 18) Exit from the program.

6. Adjustment for Focus.

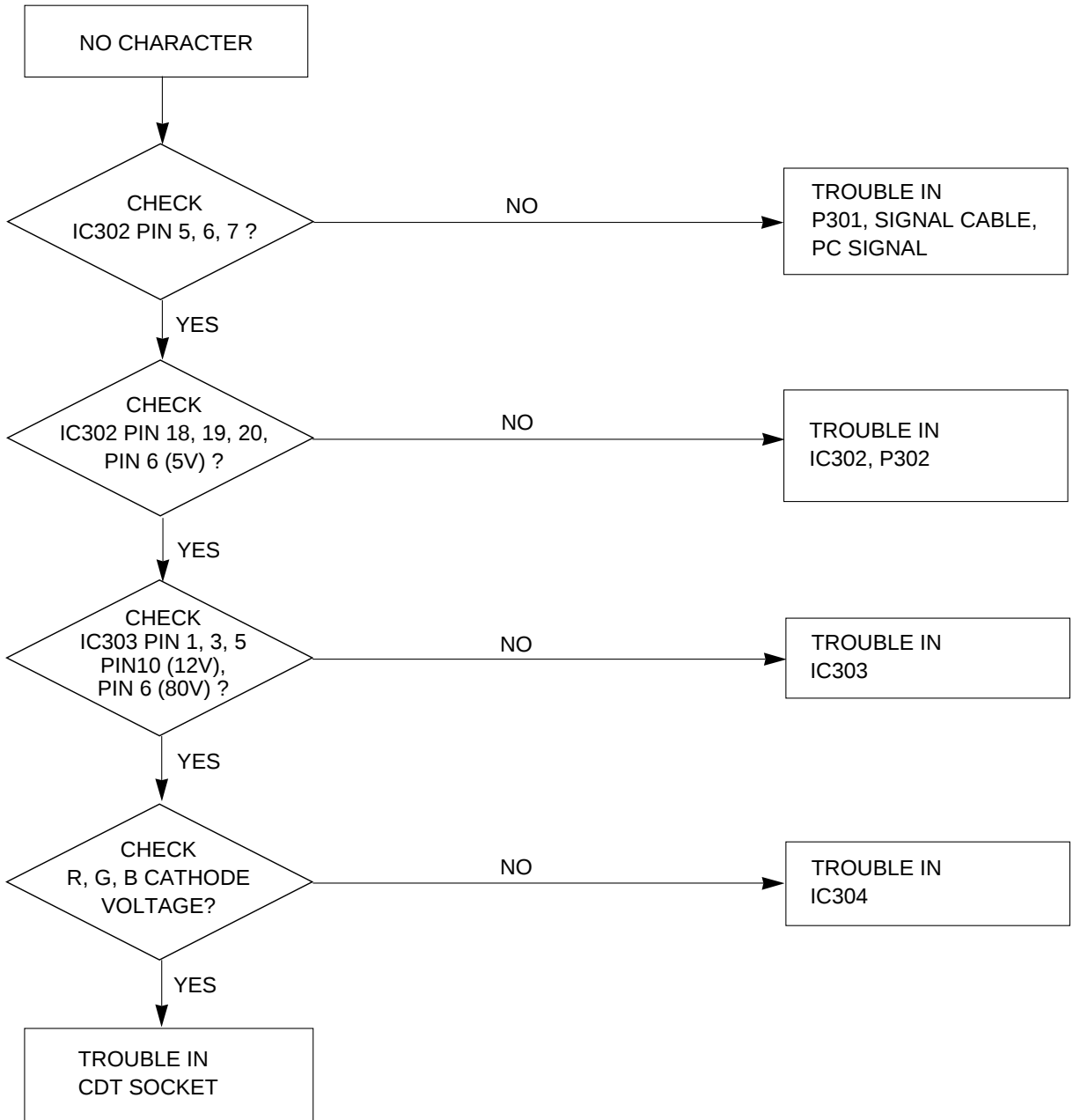
- 1) Display H character in full screen at Mode 4.
- 2) Adjust two Focus control on the FBT that focus should be the best condition.

TROUBLESHOOTING GUIDE

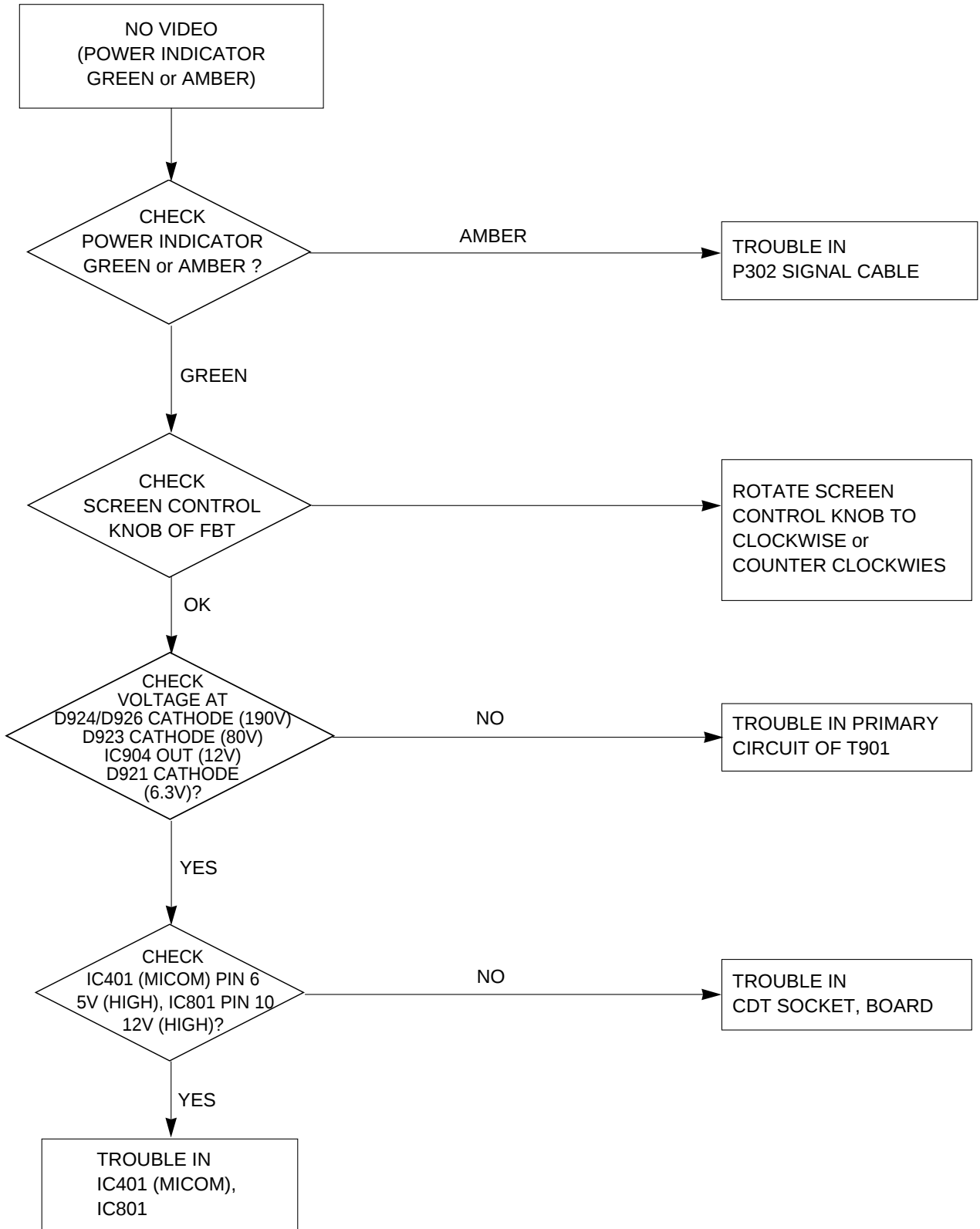
1. NO POWER



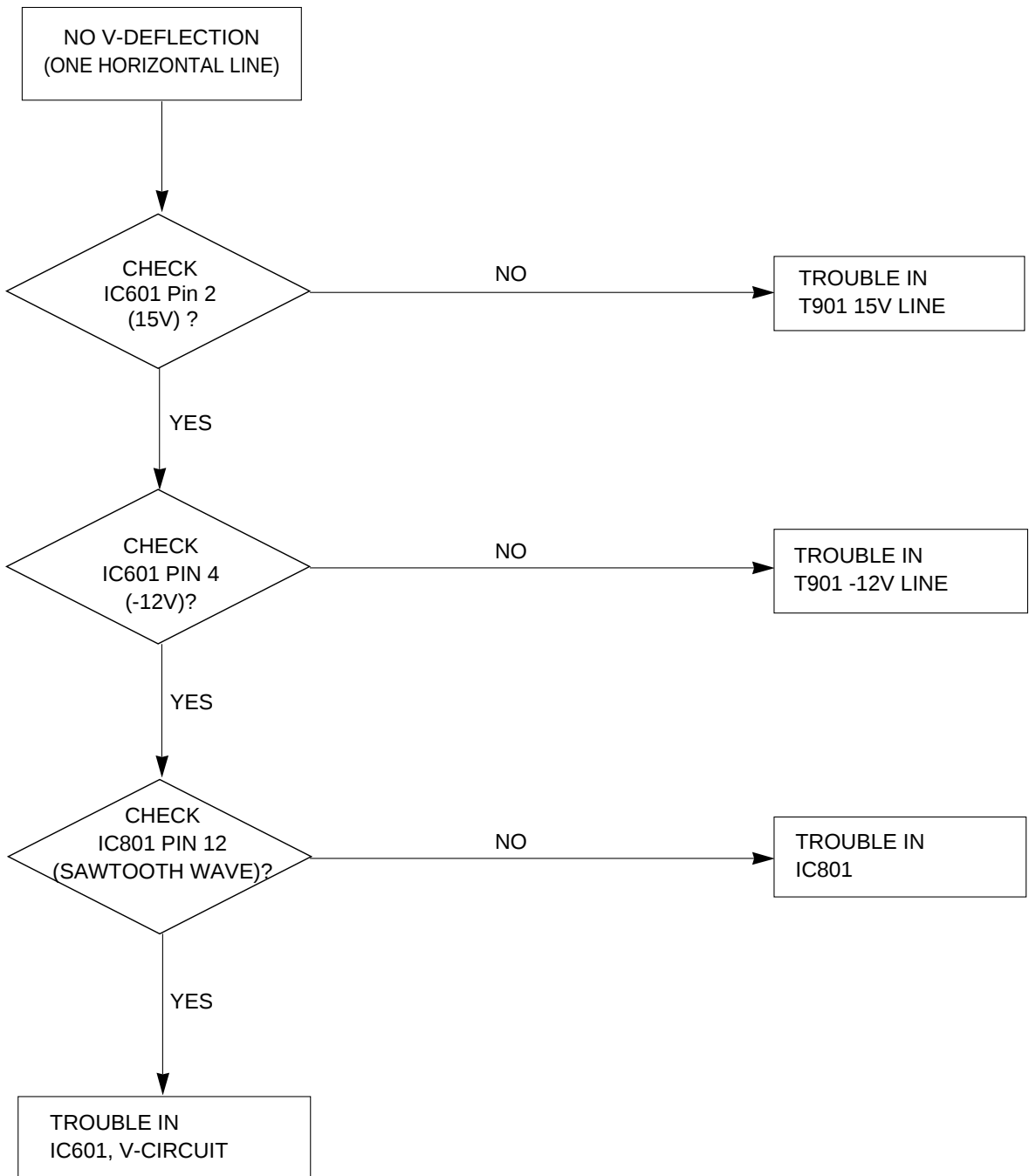
2. NO CHARACTER



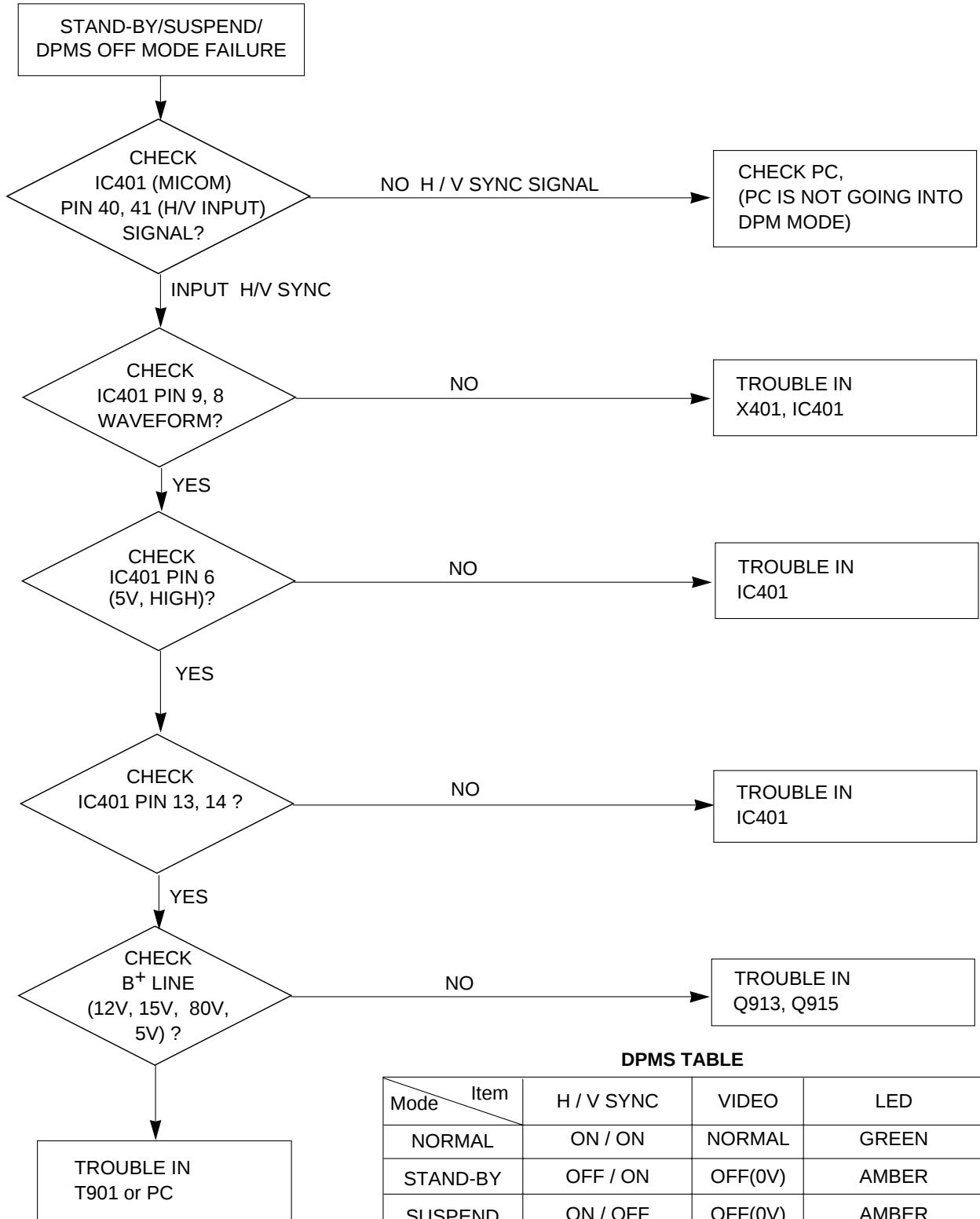
3. NO RASTER



4. NO VERTICAL DEFLECTION



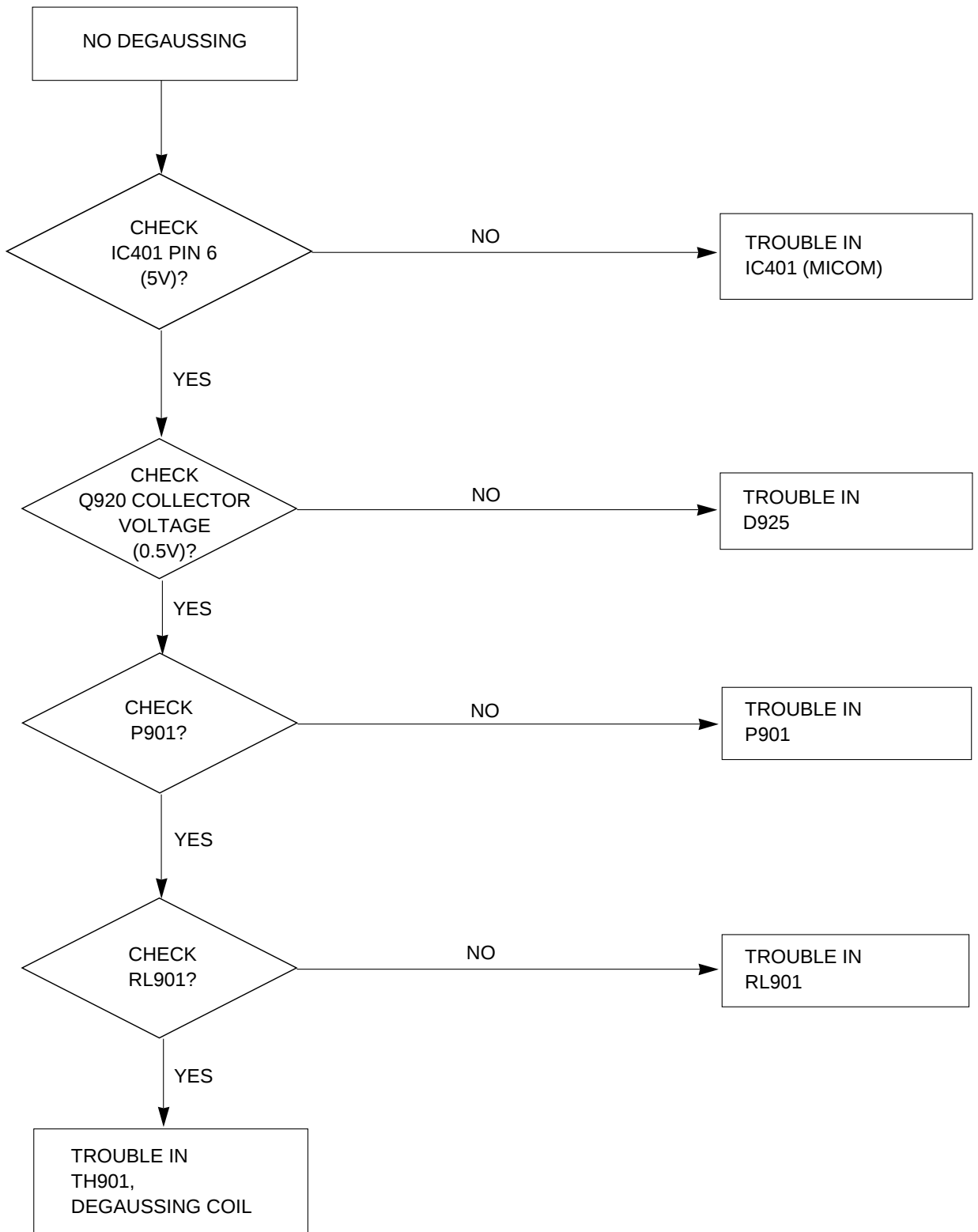
5. TROUBLE IN DPM



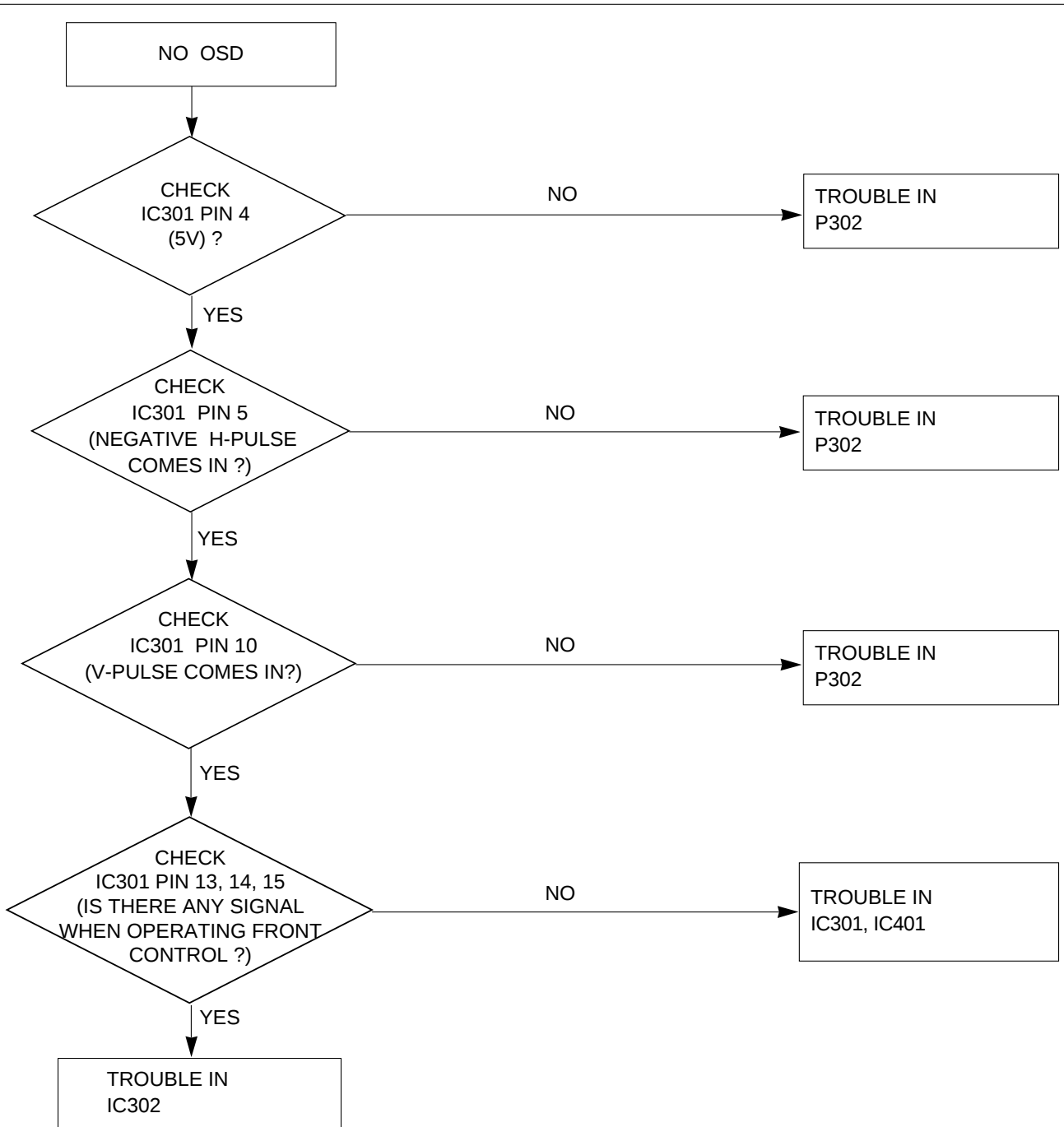
DPMS TABLE

Mode \ Item	H / V SYNC	VIDEO	LED
NORMAL	ON / ON	NORMAL	GREEN
STAND-BY	OFF / ON	OFF(0V)	AMBER
SUSPEND	ON / OFF	OFF(0V)	AMBER
OFF	OFF / OFF	OFF(0V)	AMBER

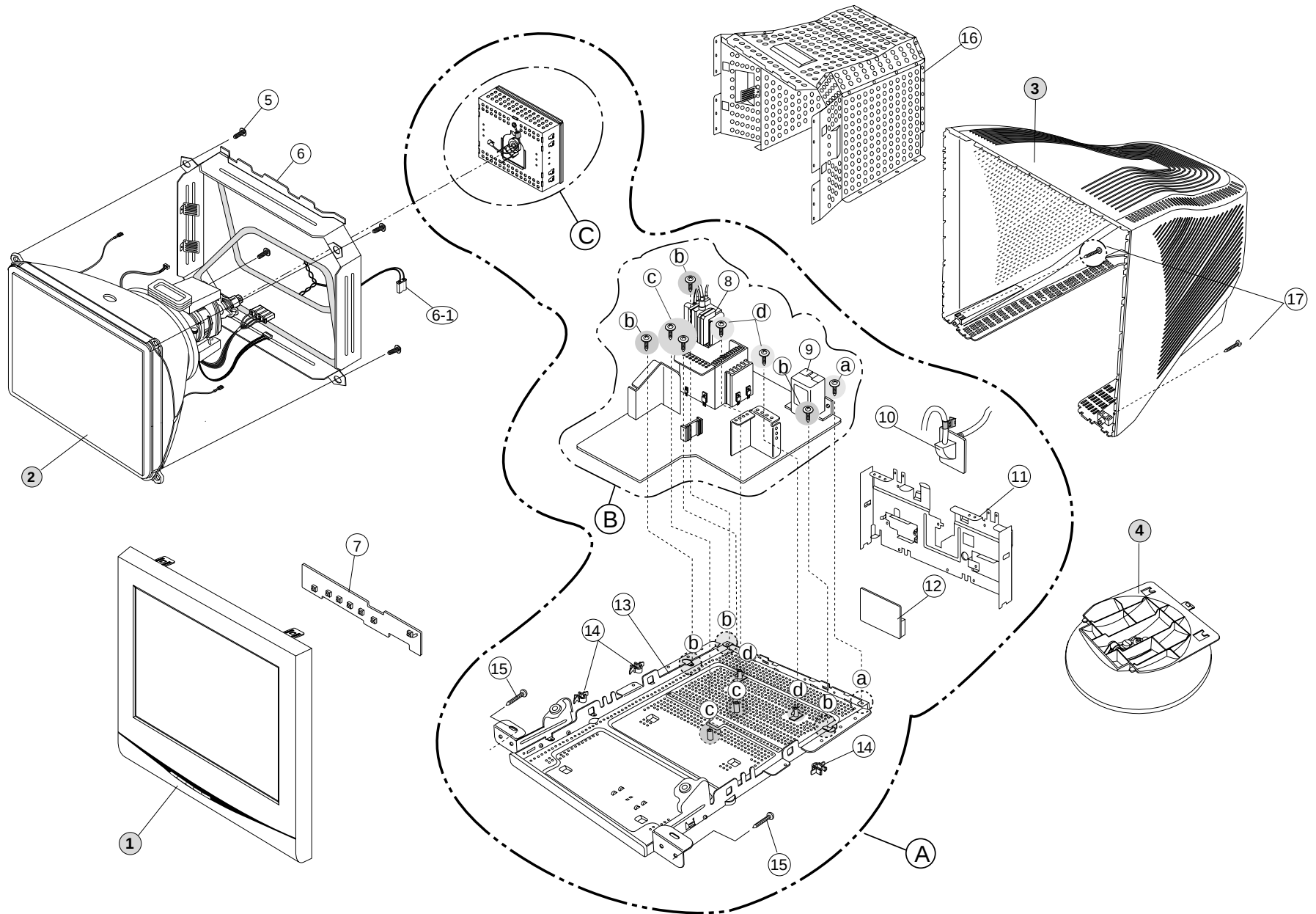
6. NO DEGAUSSING



7. TROUBLE IN OSD



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

Ref. No.	Part No.	Description
1	3091TKC081A	CABINET ASSEMBLY, FB990G BRAND 3090TKC075 8B656
2	2423GG3E41E	CDT(CIRC), M46QDG423X 05NPLD LG-PHILIPS Displays 107KHZ 29.1 mm
3	3809TKC045D	BACK COVER ASSEMBLY, FB990G 3808TKC044 PFC/TC994
4	3043TKK096A	TILT SWIVEL ASSEMBLY, FB990G TKT064 FB990G
5	339-002J	SCREW ASSY PHP+5*25 (FZMW1)+GW18
6	4951TKS041H	METAL ASSEMBLY, FRAME FB990G,PEM NUT BOTTOM FRAME
6-1	6140TC2017A	COIL,DEGAUSSING, - GET 0.6*90T,14 OHM,WITH PURITY FB790G
7	6871TST305A	PWB(PCB) ASSEMBLY,SUB, FB990G CONTROL TOTAL BRAND CA-122
8	6174T13010C	FBT (FLY BACK TRANSFORMER), FQM19A008,EB990G SAMSUNG 19"T701
9	6200TJB001H	FILTER(CIRC),EMC, 02MD1 DELTA BK W/O GND# SC901
10	6850TA9004A	CABLE,D-SUB, UL 2990 9C(7.5) AT 1560MM GLAY CB777G DM
11	4950TKK450A	METAL REAR BRACKET FB990G
12	6871TUT026A	PWB(PCB) ASSEMBLY,USB, FB990G SUB TOTAL BRAND CA-122
13	4951TKK090A	METAL ASSEMBLY, SHIELD BOTTOM-FB990G
14	4930TKK031C	HOLDER, PCB FIX FBT
15	332-102E	SCREW, PTP+4*16(MSWR/FZMY)
16	4815TKT009A	SHIELD ASSY, TOP (FB915B)
17	332-102E	SCREW, PTP+4*16(MSWR/FZMY)
A	3313T19046B	MAIN TOTAL ASSEMBLY, FB990G BRAND CA-122
B	6871TMT322B	PWB(PCB) ASSEMBLY,MAIN, FB990G ALEUU BRAND CA-122 TOTAL
C	6871TVT291A	PWB(PCB) ASSEMBLY,VIDEO, FB990G VIDEO TOTAL BRAND CA-122
a	332-112F	SCREW, D3.5 L10.0 MSWR/FZMY+SW3.5
b	4001TKK004E	SCREW, TAP TITEP TYPE D3.0 L10.0 M
c	339-008C	SCREW, MP+3*10 (FZMY)+SW3+RW3
d	332-095B	SCREW, PZP+3*10 (MSWR/FZMY)

REPLACEMENT PARTS LIST

CAUTION: BEFORE REPLACING ANY OF THESE COMPONENTS,
READ CAREFULLY THE **SAFETY PRECAUTIONS** IN THIS MANUAL.

* NOTE : **S** SAFETY Mark 
AL ALTERNATIVE PARTS

DATE: 2002. 7. 04.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
CAPACITORS				
		C1	OCE1074F638	100UF SRA,SS 16V M FM5 TP 5
		C2	OCK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5P
		C3	OCK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5P
		C6	0CH3105F946	1UF 16V Z F 2012 R/TP
		C8	OCC150CK41A	15PF 1608 50V 5% R/TP NP0
		C9	OCC150CK41A	15PF 1608 50V 5% R/TP NP0
		C18	OCK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C23	OCE1074F638	100UF SRA,SS 16V M FM5 TP 5
		C24	OCC470CK41A	47PF 1608 50V 5% R/TP NP0
		C25	OCC470CK41A	47PF 1608 50V 5% R/TP NP0
		C27	OCE1074F638	100UF SRA,SS 16V M FM5 TP 5
		C28	OCK103CK51A	0.01UF 1608 50V 10% R/TP B(Y5P
		C31	OCK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C32	OCK104CK56A	0.1UF 1608 50V 10% R/TP X7R
		C37	OCE1074F638	100UF SRA,SS 16V M FM5 TP 5
		C38	OCC470CK41A	47PF 1608 50V 5% R/TP NP0
		C39	OCC470CK41A	47PF 1608 50V 5% R/TP NP0
		C201	OCN1040K949	0.1M 50V Z F TA52
		C301	OCE477CF618	470UF SHL 16V M FL TP5
		C302	OCE107CF638	100UF SHL,SD 16V M FM5 TP 5
		C303	181-288B	MKT 100V 104JTR PHS26104
		C304	181-288N	MKT 100V 103JTR PHS86103
		C305	181-288N	MKT 100V 103JTR PHS86103
		C306	OCN1040K949	0.1M 50V Z F TA52
		C307	OCN1040K949	0.1M 50V Z F TA52
		C308	OCN1040K949	0.1M 50V Z F TA52
		C309	181-288B	MKT 100V 104JTR PHS26104
		C310	OCK1040K945	0.1UF 50V Z F TR
		C312	181-288B	MKT 100V 104JTR PHS26104
		C313	181-288B	MKT 100V 104JTR PHS26104
		C314	181-288B	MKT 100V 104JTR PHS26104
		C315	181-288B	MKT 100V 104JTR PHS26104
		C316	OCK10302940	0.01M 2KV Z F S
		C317	OCE106CN638	10UF SHL,SD 100V M FM5 TP 5
		C318	181-288B	MKT 100V 104JTR PHS26104
		C319	OCK10302940	0.01M 2KV Z F S
		C320	OCE107CN630	100U SHL 100V M FM5
		C321	OCE107EF638	100UF KMG 16V M FM5 TP 5
		C322	OCN1040K949	0.1M 50V Z F TA52
		C323	OCE476EN618	47UF KMG 100V M FL TP 5
		C324	181-288B	MKT 100V 104JTR PHS26104
		C325	OCC3300K415	33P 50V J NP0 TP
		C326	181-288B	MKT 100V 104JTR PHS26104
		C327	181-288B	MKT 100V 104JTR PHS26104
		C329	181-288B	MKT 100V 104JTR PHS26104
		C330	181-288B	MKT 100V 104JTR PHS26104
		C332	181-288E	MKT 100V 474JTR PHS 26474
		C333	181-288E	MKT 100V 474JTR PHS 26474

DATE: 2002. 7. 04.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C334	181-288E	MKT 100V 474JTR PHS 26474
		C336	OCK1010W515	100P 500V K B TS
		C337	181-288B	MKT 100V 104JTR PHS26104
		C340	OCE227CF638	220UF SHL,SD 16V M FM5 TP 5
		C341	181-288B	MKT 100V 104JTR PHS26104
		C342	OCC2200W415	22PF 500V J NP0 TR
		C343	OCK1010K515	100PF 50V K B TR
		C345	OCK22202510	2200P 2KV K B S
		C346	OCC47001505	47PF 1KV K SL TR
		C347	OCC47001505	47PF 1KV K SL TR
		C348	OCK1040K945	0.1UF 50V Z F TR
		C349	181-288E	MKT 100V 474JTR PHS 26474
		C350	OCK2210K515	220P 50V K B TS
		C355	OCK1040K945	0.1UF 50V Z F TR
		C356	OCN6810K519	680P 50V K B TA52
		C401	OCC5600K415	56P 50V J NP0 TP
		C402	OCE476CH638	47UF SHL,SD 25V M FM5 TP 5
		C403	OCK2710K515	270P 50V K B TS
		C404	OCK2710K515	270P 50V K B TS
		C405	OCK2710K515	270P 50V K B TS
		C406	OCC0400K115	4P 50V D NP0 TS
		C407	OCC0400K115	4P 50V D NP0 TS
		C408	OCN1040K949	0.1M 50V Z F TA52
		C410	OCK1040K945	0.1UF 50V Z F TR
		C417	OCK1040K945	0.1UF 50V Z F TR
		C418	OCN1040K949	0.1M 50V Z F TA52
		C452	OCE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C453	OCE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C454	OCK1040K945	0.1UF 50V Z F TR
		C455	OCK1040K945	0.1UF 50V Z F TR
		C456	OCE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C457	OCK1040K945	0.1UF 50V Z F TR
		C459	OCK1010K515	100PF 50V K B TR
		C601	OCQ4721N419	0.0047U 100V J POLY NI TP5
		C602	OCE225CK638	2.2UF SHL,SD 50V M FM5 TP 5
		C603	OCN2220K519	2200PF 50V K B TA52
		C604	OCN1040K949	0.1M 50V Z F TA52
		C605	181-288Q	MKT 100V 154JTR PHS26154
		C606	OCK2220W515	2200P 500V K B TS
		C608	OCE108CF618	1000UF SHL 16V M FL TP5
		C610	OCE227EK618	220UF KMG 50V M FL TP 5
		C611	OCE108CH618	1000UF SHL 25V M FL TP5
		C615	181-288Q	MKT 100V 154JTR PHS26154
		C616	OCQ1231N419	0.0120UF 100V J PE NI TP
		C619	OCE475CN638	4.7UF SHL,SD 100V M FM5 TP 5
		C701	OCE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C702	OCE227EN630	220UF KMG 100V M FM5 BULK
		C704	OCBZTBU003J	392J 20.0*12.5*7.5*10.0 800V J
		C705	OCE336CN638	33UF SHL,SD 100V M FM5 TP 5

DATE: 2002. 7. 04.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C707	OCE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C708	OCE476CQ618	47U SHL 200V M FL TP5
		C709	181-477A	102J 19.5*12.0*7.0*7.5 250V J
		C710	OCC3300K415	33P 50V J NP0 TP
		C711	OCQ4721N419	0.0047U 100V J POLY NI TP5
		C712	OCK2220K515	2200P 50V K B TS
		C713	OCE107CH638	100UF SHL,SD 25V M FM5 TP 5
		C730	OCE476CH638	47UF SHL,SD 25V M FM5 TP 5
		C731	OCE105CK638	1UF SHL,SD 50V M FM5 TP 5
		C732	OCK1040K945	0.1UF 50V Z F TR
		C735	OCC1000W105	10PF 500V D SL TR
		C736	OCC1000W105	10PF 500V D SL TR
		C737	OCQ2221N419	2200PF 100V J PE NI TP
		C738	OCE685CN638	6.8UF SHL,SD 100V 20% TP 5 FM5
		C740	OCK10302945	0.01UF 2KV Z F TR
		C741	OCQ2231N419	0.022UF 100V J PE NI TP
		C742	OCK4710K515	470PF 50V K B TR
		C743	OCE106CN638	10UF SHL,SD 100V M FM5 TP 5
		C771	OCK6810K515	680P 50V K B TS
		C772	OCK4710W515	470P 500V K B TS
		C801	OCQ4721N419	0.0047U 100V J POLY NI TP5
		C802	181-288B	MKT 100V 104JTR PHS26104
		C803	OCE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C804	181-288D	MKT 100V 473JTR PHS26473
		C805	181-475E	222J 11.5*10.0*6.0*5.0 100V J
		C806	OCE227CH638	220UF SHL,SD 25V M FM5 TP 5
		C807	181-288B	MKT 100V 104JTR PHS26104
		C808	OCC1000K115	10P 50V D NP0 TS
		C809	OCK1020K515	1000PF 50V K B TR
		C810	OCE105CK638	1UF SHL,SD 50V M FM5 TP 5
		C811	OCE476CH638	47UF SHL,SD 25V M FM5 TP 5
		C812	OCE107CH638	100UF SHL,SD 25V M FM5 TP 5
		C813	OCE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C814	OCK5610K515	560P 50V K B TS
		C815	OCE227CF638	220UF SHL,SD 16V M FM5 TP 5
		C817	OCE476CH638	47UF SHL,SD 25V M FM5 TP 5
		C818	181-288J	MKT 100V 563JTR PHS26563
		C819	181-477U	333J 19.5*13.0*7.5*7.5 250V J
		C821	OCK1040K945	0.1UF 50V Z F TR
		C823	OCK1010K515	100PF 50V K B TR
		C832	OCK10102515	100PF 2KV K B TR
		C833	181-482G	334J 18.0*18.0*11.0*7.5 250V J
		C834	OCK1040K945	0.1UF 50V Z F TR
		C835	OCBZTTA001S	123J 23.0*16.0*9.5*7.5 800V J
		C841	OCE107CR650	100UF SHL 250V M FM7.5 BULK
		C842	181-309H	272J 23.0*17.0*10.0*15.0 1.6KV
		C843	OCQ3321N419	3300P 100V J POLY NI TP
		C844	181-309H	272J 23.0*17.0*10.0*15.0 1.6KV
		C845	181-288B	MKT 100V 104JTR PHS26104
		C846	OCE477CF638	470UF SHL TYPE 16V M FM5 TP 5
		C847	OCQ2221N419	2200PF 100V J PE NI TP
		C848	OCK47101515	470P 1KV K B TS
		C849	OCK6810W515	680P 500V K B TS
		C850	OCK1040K945	0.1UF 50V Z F TR
		C851	OCK1040K945	0.1UF 50V Z F TR
		C852	OCN1040K949	0.1M 50V Z F TA52
		C854	181-482W	304J 19.0*18.5*10.5*7.5 250V J

DATE: 2002. 7. 04.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C855	181-302Z	823J 20.0*17.5*10.0*10.0 250V
		C856	181-482D	184J 18.0*15.0*8.5*7.5 250V J
		C857	181-305M	824J 26.0*21.5*13.0*15.0 250V
		C858	181-478B	124J 20.0*19.0*11.0*7.5 250V J
		C859	181-478A	104J 20.0*18.5*10.5*7.5 250V J
		C860	OCN1040K949	0.1M 50V Z F TA52
		C861	OCN1040K949	0.1M 50V Z F TA52
		C863	OCN1040K949	0.1M 50V Z F TA52
		C864	OCN1040K949	0.1M 50V Z F TA52
		C865	OCE105CK638	1UF SHL,SD 50V M FM5 TP 5
		C891	OCZZTFT001J	ECQB1H562JM3 562J 50V TP5.0 MA
		C892	OCZZTFT001M	ECQB1H103JM3 103J 50V TP5.0 MA
		C893	181-288B	MKT 100V 104JTR PHS26104
		C894	OCZZTFT001L	ECQB1H822JM3 822J 50V TP5.0 MA
		C895	181-288B	MKT 100V 104JTR PHS26104
		C896	181-288Q	MKT 100V 154JTR PHS26154
		C902	OCKZTBU003C	SC E 472M 14.0BW7 250V BK7.5 S
		C903	OCK10101515	100PF 1KV K B TR
		C904	181-304V	393J 19.5*15.5*9.5*10.0 400V J
		C905	OCZZTAB001B	SMH/HC 470UF 400V 30*50 BK10
		C906	OCE475CN638	4.7UF SHL,SD 100V M FM5 TP 5
		C907	OCE335CK638	3.3UF SHL,SD 50V M FM5 TP 5
		C908	OCK1040K945	0.1UF 50V Z F TR
		C909	181-288T	MKT 100V 223KTR PHS85223
		C910	OCZZTFT001P	ECQB1H153JM3 153J 50V TP5.0 MA
		C912	OCE475CN638	4.7UF SHL,SD 100V M FM5 TP 5
		C915	OCE476CH638	47UF SHL,SD 25V M FM5 TP 5
		C916	OCKZTBU003C	SC E 472M 14.0BW7 250V BK7.5 S
		C917	OCKZTBU003C	SC E 472M 14.0BW7 250V BK7.5 S
		C920	OCK22101515	220P 1KV K B TP5
		C921	OCE227CR650	220UF SHL 250V M FM7.5 BULK
		C922	OCE227EN630	220UF KMG 100V M FM5 BULK
		C923	OCK27101515	270P 1KV K B TS
		C925	OCE228CH618	2200U SHL 25V M FL TP5
		C926	OCE108EF618	1000UF KMG 16V M FL TP 5
		C927	OCE108CH630	1000UF SHL 25V M FM5 BULK
		C928	OCE108EF618	1000UF KMG 16V M FL TP 5
		C929	OCK1020K515	1000PF 50V K B TR
		C950	OCE228ED630	2200UF KMG,RD 10V 20% BULK FM5
		C951	OCE228CD618	2200U SHL 10V M FL TP5
		C952	181-288L	MKT 100V 823JTR PHS26823
		C953	OCE477CF638	470UF SHL TYPE 16V M FM5 TP 5
		C954	OCK10301945	10000PF D 1KV Z F(Y5V) TR
		C955	OCE334CK638	0.33UF SHL,SD 50V 20% TP 5 FM5
		C956	OCE336CK638	33UF SHL,SD 50V M FM5 TP 5
		C957	OCK1030K945	0.01UF 50V Z F TR
		C970	OCE476CH638	47UF SHL,SD 25V M FM5 TP 5
DIODES				
		D1	0DS181009AA	KDS181 TP KEC SOT-23 80V 300
		D201	0DL305029BA	LTL-305DJ-0C2 TP LITEON GREEN/
		D301	0DS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D302	0DS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D303	0DS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D304	0DS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D305	0DS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D306	0DS141489AB	1N4148 TP GRANDE DO-34 500MW 1

DATE: 2002. 7. 04.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		D307	ODS124409AA	1SS244 TP ROHM KOREA
		D308	ODS124409AA	1SS244 TP ROHM KOREA
		D309	ODS124409AA	1SS244 TP ROHM KOREA
		D310	ODS124409AA	1SS244 TP ROHM KOREA
		D311	ODS124409AA	1SS244 TP ROHM KOREA
		D312	ODS124409AA	1SS244 TP ROHM KOREA
		D313	ODS124409AA	1SS244 TP ROHM KOREA
		D314	ODS124409AA	1SS244 TP ROHM KOREA
		D315	ODS124409AA	1SS244 TP ROHM KOREA
		D318	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D319	ODR140059DA	1N4005TB52 TP LITEON DO41 600V
		D401	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D402	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D404	ORD4701Q609	4.70K 1/4W(3 5% TA52
		D405	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D451	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D452	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D453	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D454	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D456	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D457	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D601	ODD100009DE	RGP10G TP G.I DO204AL 400V 1A
		D602	ODD100009DE	RGP10G TP G.I DO204AL 400V 1A
		D611	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D701	ODR400409AB	UF4004 TP G.I DO204AL 400V 1A
		D702	ODR400409AB	UF4004 TP G.I DO204AL 400V 1A
		D703	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D704	ODD100009DE	RGP10G TP G.I DO204AL 400V 1A
		D706	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D707	ODD100009DA	RGP10J TP G.I DO204AL 600V 1A
		D708	ODRFJ00011A	YG339D6F208 FUJI ST TO220 -400
		D709	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D710	ODD400709CB	UF4007 TP G.I DO204AL 1000V 1
		D731	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D732	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D733	ODD400709CB	UF4007 TP G.I DO204AL 1000V 1
		D734	ODD400709CB	UF4007 TP G.I DO204AL 1000V 1
		D735	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D736	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D737	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D738	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D739	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D771	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D772	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D773	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D801	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D802	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D803	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D804	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D805	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D808	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D811	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D812	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D831	ODR260400AA	S2L60-4004P15 BK SHINDENGEN NO
		D833	ODR140059DA	1N4005TB52 TP LITEON DO41 600V
		D834	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D835	ODD140009AA	EK14 V(1) TP SANKEN E/EO-TMD 4

DATE: 2002. 7. 04.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		D836	ODD140009AA	EK14 V(1) TP SANKEN E/EO-TMD 4
		D837	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D838	ODR200000EA	FMQ-G2FMS BK SANKEN NON 1500V
		D839	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D840	ODD100009DA	RGP10J TP G.I DO204AL 600V 1A
		D861	ODD140009AA	EK14 V(1) TP SANKEN E/EO-TMD 4
		D901	ODB560000AB	G5SBA60(BRIDGE DIODE) BK G.S -
		D902	ODD400709CB	UF4007 TP G.I DO204AL 1000V 1
		D903	ODD100009DE	RGP10G TP G.I DO204AL 400V 1A
		D904	ODD100009DA	RGP10J TP G.I DO204AL 600V 1A
		D905	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D906	971-0054	TIN 50MM TAPING
		D907	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D908	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D910	ODR153979AA	1N5397GP TP G.I DO201AD 600V 1
		D920	ODRSD00079A	D2L20U SHINDENGEN TP DO-204AC
		D921	ODR320400AA	S3L20U-4004P15 BK SHINDENGEN N
		D922	ODR340400AA	S3L40-4004 BK SHINDENGEN DO204
		D923	ODR360000AB	D3L60 BK SHINDENGEN ITO220 6
		D924	ODR260400AA	S2L60-4004P15 BK SHINDENGEN NO
		D925	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D926	ODR260400AA	S2L60-4004P15 BK SHINDENGEN NO
		D927	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		D928	971-0054	TIN 50MM TAPING
		D929	ODD100009DE	RGP10G TP G.I DO204AL 400V 1A
		D940	ODD400709CB	UF4007 TP G.I DO204AL 1000V 1
		D941	ODD100009DE	RGP10G TP G.I DO204AL 400V 1A
		D942	ODR520000AA	D5LC20U BK SHINDENGEN ITO220
		D943	ODD100009DE	RGP10G TP G.I DO204AL 400V 1A
		D946	ODS141489AB	1N4148 TP GRANDE DO-34 500MW 1
		ZD1	ODZ510009EE	UDZ S 5.1B TP ROHM-K SOD323 20
		ZD4	ODZ510009EE	UDZ S 5.1B TP ROHM-K SOD323 20
		ZD7	ODZ560009DA	UDZ S 5.6B TP ROHM-K SOD323 20
		ZD8	ODZ560009DA	UDZ S 5.6B TP ROHM-K SOD323 20
		ZD11	ODZ560009DA	UDZ S 5.6B TP ROHM-K SOD323 20
		ZD12	ODZ560009DA	UDZ S 5.6B TP ROHM-K SOD323 20
		ZD201	ODZ560009AG	GDZJ5.6B TP GRANDE DO-34 500MW
		ZD202	ODZ560009AG	GDZJ5.6B TP GRANDE DO-34 500MW
		ZD203	ODZ560009AG	GDZJ5.6B TP GRANDE DO-34 500MW
		ZD303	ODZ560009AG	GDZJ5.6B TP GRANDE DO-34 500MW
		ZD306	ODZ560009AG	GDZJ5.6B TP GRANDE DO-34 500MW
		ZD402	ODZ560009AG	GDZJ5.6B TP GRANDE DO-34 500MW
		ZD403	ODZ560009AG	GDZJ5.6B TP GRANDE DO-34 500MW
		ZD404	ODZ560009AG	GDZJ5.6B TP GRANDE DO-34 500MW
		ZD405	ODZ560009AG	GDZJ5.6B TP GRANDE DO-34 500MW
		ZD407	ODZ560009AG	GDZJ5.6B TP GRANDE DO-34 500MW
		ZD408	ODZ560009AG	GDZJ5.6B TP GRANDE DO-34 500MW
		ZD409	ODZ560009AG	GDZJ5.6B TP GRANDE DO-34 500MW
		ZD410	ODZ560009AG	GDZJ5.6B TP GRANDE DO-34 500MW
		ZD703	ODZ510009BE	GDZ5.1B TP GRANDE DO34 500MW 5
		ZD711	ODZ910009AH	MTZJ9.1B TP ROHM-K DO34 500MW
		ZD712	ODZ560009AG	GDZJ5.6B TP GRANDE DO-34 500MW
		ZD802	ODZ180009BD	GDZJ18B TP GRANDE DO34 0.5W 18
		ZD804	ODZ180009BD	GDZJ18B TP GRANDE DO34 0.5W 18
		ZD901	ODZ240009BJ	GDZJ24B TP GRANDE DO34 500MW 2
		ZD902	ODZ470005AA	MTZ 4.7B TP ROHM-K DO34 500MW

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
ICs				
		IC301	0IPRPNV009A	NT68275-00027 NOVATEK 16P, DIP
		IC302	0IPRPNs018A	LM1262NA NATIONAL SEMICONDUCTO
		IC303	0IPRPNs019A	LM2462TA NATIONAL SEMICONDUCTO
		IC304	0IPRPNs005A	LM2480NA NATIONAL SEMICONDUCTO
		IC401	0IZZTSZ179A	WT62PI WELTREND 42 ST MTP EB99
		IC402	0ISG240860A	M24C08-BN6 8DIP BK 8K SERIAL I
		IC601	0ISG817200A	TDA8172
		IC801	0IPRPPH005A	TDA4841PS PHILIPS 32P,SDIP ST
		IC802	0IMI625010A	M62501P 16P4 BK INTERFACE PWM
		IC901	0ISS384300A	KA3843B 8P SDIP BK PWM CONTROL
		IC902	0IPMGFF001A	ICE2B265 INFINEON 8 DIP ST SMP
		IC904	0ISS781200F	KA7812
		IC906	0ILI817000E	LTV-817M B 4P BK PHOTO COUPLER
		IC916	0ILI817000E	LTV-817M B 4P BK PHOTO COUPLER
		IC917	0IKE431000B	KIA431 (TP)
		U1	0ITI764330A	TPS76433DBVR SOT23(DBV) TP 0.1
		U2	0IPRPTI007A	TUSB2036 TEXAS INSTRUMENT 32P,
		U3	0ITI204200B	TPS2042ADR TEXAS INSTRUMENT 8S
COILs & COREs				
		L1	6210TCE001G	HH-1M3216-501 CERATEC 3216MM R
		L2	6210TCE001G	HH-1M3216-501 CERATEC 3216MM R
		L4	6210TCE001P	HB-1S2012-121JT CERATECH 2012M
		L5	6210TCE001P	HB-1S2012-121JT CERATECH 2012M
		L13	6210TCE001G	HH-1M3216-501 CERATEC 3216MM R
		L14	6210TCE001P	HB-1S2012-121JT CERATECH 2012M
		L15	6210TCE001P	HB-1S2012-121JT CERATECH 2012M
		L16	6210TCE001P	HB-1S2012-121JT CERATECH 2012M
		L17	6210TCE001P	HB-1S2012-121JT CERATECH 2012M
		L18	6210TCE001G	HH-1M3216-501 CERATEC 3216MM R
		L19	6210TCE001P	HB-1S2012-121JT CERATECH 2012M
		L20	6210TCE001P	HB-1S2012-121JT CERATECH 2012M
		L304	0LA1000K119	100UH K 2.3*3.4 TP
		L305	0LA0220K119	0.22UH K 2.3*3.4 TP
		L306	0LA0220K119	0.22UH K 2.3*3.4 TP
		L307	0LA0220K119	0.22UH K 2.3*3.4 TP
		L308	971-0054	TIN 50MM TAPING
		L309	971-0054	TIN 50MM TAPING
		L310	971-0054	TIN 50MM TAPING
		L701	6140TBZ009D	- GET NO CORE,0.1*30 50TS,10UH
		L801	6140TYZ011E	- GET H-LIN,2.0UH,FB990G
		L805	150-985P	DR12*15 6MH 0.25MM 365.5T H-
		L806	150-985N	DR10*10 4.7UH 0.16MM 322.5T
		L901	6140TBZ032B	EE42SI PFC 49MH 0.42MM 230 +/-
		L910	150-985F	DR10*10 10UH 0.5MM 14.5T
		FB201	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM A
		FB301	125-155A	BFD3510R2FG SAMWHA 3.5*10MM RA
		FB302	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM A
		FB303	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM A
		FB304	125-155A	BFD3510R2FG SAMWHA 3.5*10MM RA
		FB305	125-155A	BFD3510R2FG SAMWHA 3.5*10MM RA
		FB306	125-022J	FERRITE KQ-1 JS 3.5*5.0MM AXIA
		FB307	125-022J	FERRITE KQ-1 JS 3.5*5.0MM AXIA
		FB308	125-022J	FERRITE KQ-1 JS 3.5*5.0MM AXIA

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		FB309	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM A
		FB310	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM A
		FB312	125-155A	BFD3510R2FG SAMWHA 3.5*10MM RA
		FB313	125-155K	BFS3550A0FG SAMWHA 3.5*5.0MM A
		FB314	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM A
		FB315	125-155A	BFD3510R2FG SAMWHA 3.5*10MM RA
		FB316	125-155A	BFD3510R2FG SAMWHA 3.5*10MM RA
		FB317	125-155A	BFD3510R2FG SAMWHA 3.5*10MM RA
		FB401	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM A
		FB402	125-155N	BFD3565R2FG SAMWHA 3.5*6.5MM R
		FB403	125-155L	BFS3580A0FG SAMWHA 3.5*8.0MM A
		FB404	125-155F	BFD3580R2FG SAMWHA 3.5*8.0MM R
		FB405	125-155F	BFD3580R2FG SAMWHA 3.5*8.0MM R
		FB841	125-155P	BFS2550R2FG SAMWHA 2.5*5.0MM R
		FB902	125-155H	BFS3510A0FG SAMWHA 3.5*10MM AX
		FB903	125-155C	BFD3514R2FG SAMWHA 3.5*14MM RA
		FB904	125-155H	BFS3510A0FG SAMWHA 3.5*10MM AX
		FB905	125-155C	BFD3514R2FG SAMWHA 3.5*14MM RA
		FB906	125-155H	BFS3510A0FG SAMWHA 3.5*10MM AX
		FB907	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM A
TRANSISTORS				
		Q301	0TR390409CA	2N3904 TP SAMSUNG TO92 NPN
		Q302	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO92
		Q450	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO92
		Q451	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC TO9
		Q452	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC TO9
		Q453	0TR320209AA	KTC3202-Y(KTC1959) TP KEC TO92
		Q454	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC TO9
		Q455	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC TO9
		Q456	0TR320209AA	KTC3202-Y(KTC1959) TP KEC TO92
		Q457	0TR564009AB	KSB564AC-YTA TP SANSUNG TO92 P
		Q458	0TR320209AA	KTC3202-Y(KTC1959) TP KEC TO92
		Q459	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC TO9
		Q611	0TR320709AA	KTC3207(KTC2482) TP KEC TO92L
		Q701	0TR320509AB	KTC3205-Y(KTC2236A) TP KEC TO9
		Q704	0TFFN10003B	INFINEON SPA07N60C3 ST TO220F
		Q705	0TR320209AA	KTC3202-Y(KTC1959) TP KEC TO92
		Q706	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC TO9
		Q707	0TR390409CA	2N3904 TP SAMSUNG TO92 NPN
		Q708	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO92
		Q721	0TR390409CA	2N3904 TP SAMSUNG TO92 NPN
		Q722	0TR390600CA	2N3906 TP SAMSUNG TO92 NPN
		Q723	0TR390409CA	2N3904 TP SAMSUNG TO92 NPN
		Q724	0TR463300AB	2SC4633(LS-CB11) BK SANYO LS-
		Q725	0TR463300AB	2SC4633(LS-CB11) BK SANYO LS-
		Q771	0TR920009AB	KSP92 TP SAMSUNG TO92 HIGH VOL
		Q801	0TR558900BA	2SC5589(LG,W/M) BK TOSHIBA TO3
		Q802	0TR471009AA	KSD471AC-Y TP SAMSUNG TO92 NP
		Q803	0TR564009AB	KSB564AC-YTA TP SANSUNG TO92 P
		Q806	0TR471009AA	KSD471AC-Y TP SAMSUNG TO92 NP
		Q807	0TR564009AB	KSB564AC-YTA TP SANSUNG TO92 P
		Q808	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC TO9
		Q810	0TR114009AB	DTC114ES TP ROHM-K SPT NPN
		Q811	0TF630000CA	IRFS630A BK SAMSUNG 200V 6.5A
		Q812	0TR114009AB	DTC114ES TP ROHM-K SPT NPN

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		Q832	0TF283509AA	2SK2835(TP) TP TOSHIBA 200V 5A
		Q833	0TF306000AA	2SJ306 BK SANYO -250V -3A TO2
		Q834	0TR231609AA	KSC2316-Y TP SAMSUNG TO92L NP
		Q836	0TF630000CA	IRFS630A BK SAMSUNG 200V 6.5A TO220F
		Q837	0TF630000CA	IRFS630A BK SAMSUNG 200V 6.5A
		Q838	0TF630000CA	IRFS630A BK SAMSUNG 200V 6.5A TO220F
		Q839	0TF640000CB	FAIRCHILD IRFS640B ST TO220F 2
		Q841	0TR114009AB	DTC114ES TP ROHM-K SPT NPN
		Q842	0TR114009AB	DTC114ES TP ROHM-K SPT NPN
		Q843	0TR114009AB	DTC114ES TP ROHM-K SPT NPN
		Q844	0TR114009AB	DTC114ES TP ROHM-K SPT NPN
		Q901	0TFFN10003C	INFINEON SPA07N60C3(E8153) ST
		Q903	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO92
		Q912	0TR127309AA	KTA1273-Y(KTA966A) TP KEC TO92
		Q913	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO92
		Q914	0TR928009AB	KSA928A-Y TP SAMSUNG TO92L PNP
		Q915	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO92
		Q920	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO92

RESISTORS

		R1	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R8	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R9	0RJ1501D677	1.5K OHM 1/10 W 5% 1608 R/TP
		R19	0RJ1502D677	15K OHM 1/10 W 5% 1608 R/TP
		R21	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R22	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R23	0RJ1502D677	15K OHM 1/10 W 5% 1608 R/TP
		R24	0RJ1502D677	15K OHM 1/10 W 5% 1608 R/TP
		R25	0RJ0000D677	0 OHM 1/10 W 5% 1608 R/TP
		R26	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R28	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R30	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R31	0RJ1502D677	15K OHM 1/10 W 5% 1608 R/TP
		R32	0RJ1502D677	15K OHM 1/10 W 5% 1608 R/TP
		R34	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R35	0RJ0222D677	22 OHM 1/10 W 5% 1608 R/TP
		R37	0RJ1501D677	1.5K OHM 1/10 W 5% 1608 R/TP
		R40	0RJ1501D677	1.5K OHM 1/10 W 5% 1608 R/TP
		R41	0RJ1002D677	10K OHM 1/10 W 5% 1608 R/TP
		R201	0RD1001Q609	1K 1/4W(3 5% TA52
		R202	0RD1600Q609	160 1/4W(3 5% TA52
		R203	0RD2200Q609	220 1/4W(3 5% TA52
		R204	0RD2200Q609	220 1/4W(3 5% TA52
		R205	0RD1001Q609	1K 1/4W(3 5% TA52
		R206	0RD1600Q609	160 1/4W(3 5% TA52
		R207	0RD3300Q609	330 1/4W(3 5% TA52
		R208	0RD3300Q609	330 1/4W(3 5% TA52
		R209	0RD5600Q609	560 1/4W(3 5% TA52
		R210	0RD3600Q609	360 1/4W(3 5% TA52
		R211	0RD5100Q609	510 1/4W(3 5% TA52
		R301	0RD0752Q609	75 1/4W(3 5% TA52
		R302	0RD0752Q609	75 1/4W(3 5% TA52
		R303	0RD0752Q609	75 1/4W(3 5% TA52
		R304	0RD0332Q609	33 1/4W(3 5% TA52
		R305	0RD0332Q609	33 1/4W(3 5% TA52
		R306	0RD0332Q609	33 1/4W(3 5% TA52

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R307	0RD5601Q609	5.60K 1/4W(3 5% TA52
		R308	0RD1002Q609	10K 1/4W(3 5% TA52
		R309	0RD5601Q609	5.60K 1/4W(3 5% TA52
		R310	0RD1004Q609	1M OHM 1/4 W (3.4) 5% TA52
		R311	0RN1002F409	10K 1/6W 1 TA52
		R312	0RD0472Q609	47 1/4W(3 5% TA52
		R313	0RD1000Q609	100 1/4W(3 5% TA52
		R314	0RD1001Q609	1K 1/4W(3 5% TA52
		R315	0RD1000Q609	100 1/4W(3 5% TA52
		R316	0RD1000Q609	100 1/4W(3 5% TA52
		R317	0RD1002Q609	10K 1/4W(3 5% TA52
		R318	0RD1001Q609	1K 1/4W(3 5% TA52
		R319	0RD1000Q609	100 1/4W(3 5% TA52
		R320	0RD1000Q609	100 1/4W(3 5% TA52
		R321	0RD1002Q609	10K 1/4W(3 5% TA52
		R322	0RD1501Q609	1.50K 1/4W(3 5% TA52
		R323	0RD1102Q609	11K 1/4W(3 5% TA52
		R324	0RD1000Q609	100 1/4W(3 5% TA52
		R325	0RD1002Q609	10K 1/4W(3 5% TA52
		R326	0RD1000Q609	100 1/4W(3 5% TA52
		R327	0RD2201Q609	2.20K 1/4W(3 5% TA52
		R328	0RD2201Q609	2.20K 1/4W(3 5% TA52
		R329	0RD2201Q609	2.20K 1/4W(3 5% TA52
		R330	0RD1001Q609	1K 1/4W(3 5% TA52
		R331	0RD2700Q609	270 1/4W(3 5% TA52
		R332	0RD2700Q609	270 1/4W(3 5% TA52
		R333	0RD2700Q609	270 1/4W(3 5% TA52
		R334	0RD1000Q609	100 1/4W(3 5% TA52
		R335	0RD1000Q609	100 1/4W(3 5% TA52
		R336	0RD1500Q609	150 1/4W(3 5% TA52
		R337	0RD1500Q609	150 1/4W(3 5% TA52
		R338	0RD1300Q609	130 1/4W(3 5% TA52
		R339	0RD1004Q609	1M OHM 1/4 W (3.4) 5% TA52
		R340	0RD1004Q609	1M OHM 1/4 W (3.4) 5% TA52
		R341	0RD1004Q609	1M OHM 1/4 W (3.4) 5% TA52
		R342	0RD0332A609	33 OHM 1/2 W (7.0) 5% TA52
		R343	0RD0332A609	33 OHM 1/2 W (7.0) 5% TA52
		R344	0RD0332A609	33 OHM 1/2 W (7.0) 5% TA52
		R347	0RD1000Q609	100 1/4W(3 5% TA52
		R350	0RX1002K607	10KOHM 2 W 5% TA62
		R359	0RD0102Q609	10 1/4W(3 5% TA52
		R401	0RD3300Q609	330 1/4W(3 5% TA52
		R402	0RD1000Q609	100 1/4W(3 5% TA52
		R405	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R406	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R407	0RD1000Q609	100 1/4W(3 5% TA52
		R412	0RD1000Q609	100 1/4W(3 5% TA52
		R413	0RD2202Q609	22K 1/4W(3 5% TA52
		R414	0RD2202Q609	22K 1/4W(3 5% TA52
		R415	0RD2202Q609	22K 1/4W(3 5% TA52
		R416	0RD2202Q609	22K 1/4W(3 5% TA52
		R419	0RN4701F409	4.70K 1/6W 1% TA52
		R420	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R421	0RD2001Q609	2K 1/4W(3 5% TA52
		R422	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R423	0RD1000Q609	100 1/4W(3 5% TA52
		R424	0RN1102F409	11K 1/6W 1% TA52

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R425	ORD2001Q609	2K 1/4W(3 5% TA52
		R426	ORD2001Q609	2K 1/4W(3 5% TA52
		R427	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R428	ORD1000Q609	1.00 1/4W(3 5% TA52
		R429	ORD1000Q609	100 1/4W(3 5% TA52
		R430	ORD1801Q609	1.80K 1/4W(3 5% TA52
		R431	ORD1801Q609	1.80K 1/4W(3 5% TA52
		R432	ORD1301Q609	1.30K 1/4W(3 5% TA52
		R440	ORD1000Q609	100 1/4W(3 5% TA52
		R443	ORD1001Q609	1K 1/4W(3 5% TA52
		R451	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R452	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R453	ORD1500Q609	150 1/4W(3 5% TA52
		R454	ORD6201Q609	6.20K 1/4W(3 5% TA52
		R455	ORN0270G609	0.27 1/4W 5 TA52
		R456	ORD0622A609	62 OHM 1/2 W (7.0) 5% TA52
		R457	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R458	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R459	ORD1500Q609	150 1/4W(3 5% TA52
		R460	ORD8201Q609	8.20K 1/4W(3 5% TA52
		R461	ORD8201Q609	8.20K 1/4W(3 5% TA52
		R462	ORD1500Q609	150 1/4W(3 5% TA52
		R463	ORD2201Q609	2.20K 1/4W(3 5% TA52
		R464	ORX0471K607	4.7 OHM 2 W 5% TA62
		R465	ORD1001Q609	1K 1/4W(3 5% TA52
		R473	ORD1004Q609	1M OHM 1/4 W (3.4) 5% TA52
		R493	ORD1000Q609	100 1/4W(3 5% TA52
		R494	ORD1000Q609	100 1/4W(3 5% TA52
		R522	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R567	ORD1001Q609	1K 1/4W(3 5% TA52
		R601	ORN4701F409	4.70K 1/6W 1% TA52
		R602	ORN1301F409	1.30K 1/6W 1% TA52
		R603	ORN9101F409	9.10K 1/6W 1% TA52
		R604	ORN1802F409	18K 1/6W 1% TA52
		R605	ORN8201F409	8.20K 1/6W 1% TA52
		R606	ORN1801F409	1.80K 1/6W 1% TA52
		R607	ORD2000A609	200 OHM 1/2 W (7.0) 5% TA52
		R608	ORD0151A609	1.5 OHM 1/2 W (7.0) 5% TA52
		R609	ORN0111H509	1.1 OHM 1/2 W 2.00% TA52
		R610	ORN3002F409	30K 1/6W 1% TA52
		R615	ORD2001Q609	2K 1/4W(3 5% TA52
		R616	ORD3001Q609	3K 1/4W(3 5% TA52
		R617	ORD4700Q609	470 OHM 1/4 W (3.4) 5% TA52
		R618	ORD1002Q609	10K 1/4W(3 5% TA52
		R619	ORD1001Q609	1K 1/4W(3 5% TA52
		R620	ORD0122Q609	12 1/4W(3 5% TA52
		R701	ORMZTWD001K	RWR SMART 100OHM 7 W 5% PD TYP
		R702	ORD1002Q609	10K 1/4W(3 5% TA52
		R703	ORD3301Q609	3.30K 1/4W(3 5% TA52
		R704	ORD2201Q609	2.20K 1/4W(3 5% TA52
		R705	ORB0150K609	0.15 OHM 2 W 5% TA52
		R706	ORD1003Q609	100K 1/4W(3 5% TA52
		R707	ORD5601Q609	5.60K 1/4W(3 5% TA52
		R710	ORD0472Q609	47 1/4W(3 5% TA52
		R711	ORN1502F409	15K 1/6W 1% TA52
		R712	ORD1003Q609	100K 1/4W(3 5% TA52
		R713	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM A

DATE: 2002. 7. 04.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R714	ORD1001Q609	1K 1/4W(3 5% TA52
		R716	ORD1004Q609	1M OHM 1/4 W (3.4) 5% TA52
		R717	ORD1000Q609	100 1/4W(3 5% TA52
		R718	ORN0121H509	1.2 1/2W 2 TA52
		R719	ORD0332Q609	33 1/4W(3 5% TA52
		R730	ORD4702Q609	47K 1/4W(3 5% TA52
		R731	ORD1000Q609	100 1/4W(3 5% TA52
		R732	ORD1001Q609	1K 1/4W(3 5% TA52
		R733	ORD1802Q609	18K 1/4W(3 5% TA52
		R734	ORD2001Q609	2K 1/4W(3 5% TA52
		R735	ORD5601Q609	5.60K 1/4W(3 5% TA52
		R736	ORX1001K607	1K OHM 2 W 5.00% TA62
		R737	ORD1004A609	1.0M OHM 1/2 W (7.0) 5% TA52
		R738	ORD3601Q609	3.60K 1/4W(3 5% TA52
		R739	ORD3300Q609	330 1/4W(3 5% TA52
		R740	ORN1503G409	150K 1/4W 1 TA52
		R743	ORX1303L665	130K OHM 3 W 5% SF
		R744	ORX1303L665	130K OHM 3 W 5% SF
		R745	ORD0751Q609	7.5 OHM 1/4 W (3.4) 5% TA52
		R746	ORX1502J609	15KOHM 1 W 5% TA52
		R747	ORD3001A609	3.0K OHM 1/2 W (7.0) 5% TA52
		R748	ORD3300Q609	330 1/4W(3 5% TA52
		R749	ORD5600Q609	560 1/4W(3 5% TA52
		R750	ORN4302F409	43K 1/6W 1% TA52
		R751	ORD2000Q609	200 1/4W(3 5% TA52
		R764	ORD0472Q609	47 1/4W(3 5% TA52
		R771	ORD1101Q609	1.1K OHM 1/4 W (3.4) 5% TA52
		R773	ORD5602A609	56K OHM 1/2 W (7.0) 5% TA52
		R774	ORD4302Q609	43K 1/4W(3 5% TA52
		R775	ORD3300Q609	330 1/4W(3 5% TA52
		R776	ORD7502Q609	75K 1/4W(3 5% TA52
		R780	ORD1001Q609	1K 1/4W(3 5% TA52
		R781	ORX4300K607	430 OHM 2 W 5% TA62
		R801	ORD1502Q609	15K 1/4W(3 5% TA52
		R802	ORN2002F409	20K 1/6W 1% TA52
		R803	ORD3302Q609	33K 1/4W(3 5% TA52
		R805	ORD1002Q609	10K 1/4W(3 5% TA52
		R806	ORD1002Q609	10K 1/4W(3 5% TA52
		R807	ORD1001Q609	1K 1/4W(3 5% TA52
		R808	ORD1001Q609	1K 1/4W(3 5% TA52
		R809	ORD3602F509	36K 1/6W 2% TA52
		R810	ORD1001Q609	1K 1/4W(3 5% TA52
		R811	ORD1001Q609	1K 1/4W(3 5% TA52
		R812	ORD2201Q609	2.20K 1/4W(3 5% TA52
		R813	ORD2401Q609	2.40K 1/4W(3 5% TA52
		R814	ORN1202F409	12K 1/6W 1% TA52
		R815	ORN4700F409	470 1/6W 1 TA52
		R818	ORD2701Q609	2.70K 1/4W(3 5% TA52
		R822	ORN3601F409	3.6K 1/6W 1 TA52
		R823	ORD2703Q609	270K 1/4W(3 5% TA52
		R824	ORN4700F409	470 1/6W 1 TA52
		R825	ORN1002F409	10K 1/6W 1 TA52
		R826	ORN1602F409	16K 1/6W 1% TA52
		R827	ORN1002F409	10K 1/6W 1 TA52
		R830	ORD1002Q609	10K 1/4W(3 5% TA52
		R831	ORN1202F409	12K 1/6W 1% TA52
		R835	ORD4700Q609	470 OHM 1/4 W (3.4) 5% TA52

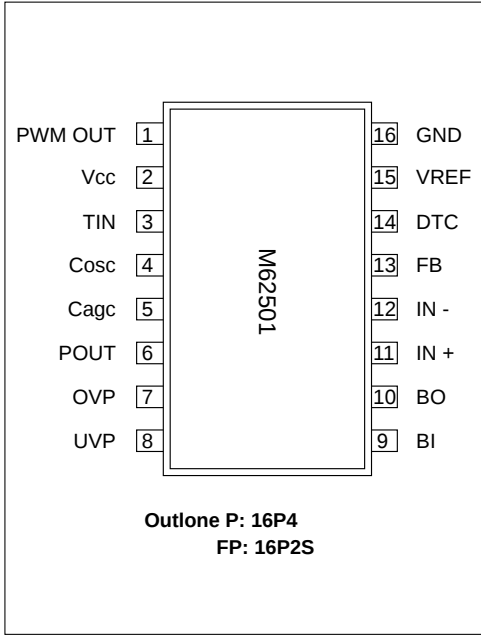
DATE: 2002. 7. 04.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R836	ORD1002A609	10K OHM 1/2 W (7.0) 5% TA52
		R837	ORN1202F409	12K 1/6W 1% TA52
		R838	ORD0101Q609	1 1/4W(3 5% TA52
		R841	ORD5601Q609	5.60K 1/4W(3 5% TA52
		R842	ORMZTWD001A	4.7 OHM 5 W 5% B RWR
		R843	ORX1003J609	100KOHM 1 W 5% TA52
		R846	ORD0332A609	33 OHM 1/2 W (7.0) 5% TA52
		R847	ORD1000A609	100 OHM 1/2 W (7.0) 5% TA52
		R848	ORD0471A609	4.7 OHM 1/2 W (7.0) 5% TA52
		R849	ORX1300J609	130 OHM 1 W 5% TA52
		R850	ORMZTWD001C	47 OHM 7 W 5% RWR PD-TYPE
		R851	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R853	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R855	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R857	ORD3001Q609	3K 1/4W(3 5% TA52
		R859	ORD0102Q609	10 1/4W(3 5% TA52
		R860	ORD2000Q609	200 1/4W(3 5% TA52
		R861	ORMZTWV001H	RWR-V SMART 0.56OHM 7 W 5% CEM
		R862	ORB0120K607	0.12 OHM 2 W 5% TA62
		R864	ORD2202Q609	22K 1/4W(3 5% TA52
		R865	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R871	ORX1800K607	180 OHM 2 W 5% TA62
		R872	ORD2401Q609	2.40K 1/4W(3 5% TA52
		R873	ORD0122A609	12 OHM 1/2 W (7.0) 5% TA52
		R874	ORX0332K607	33 OHM 2 W 5% TA62
		R875	ORX0432K607	43 OHM 2 W 5% TA62
		R876	ORD3002Q609	30K 1/4W(3 5% TA52
		R891	ORN2701F409	2.70K 1/6W 1% TA52
		R892	ORN6800F409	680 1/6W 1% TA52
		R893	ORD3301Q609	3.30K 1/4W(3 5% TA52
		R894	ORN2202F409	22K 1/6W 1% TA52
		R895	ORD1000Q609	100 1/4W(3 5% TA52
		R896	ORD1000Q609	100 1/4W(3 5% TA52
		R902	ORD0472Q609	47 1/4W(3 5% TA52
		R903	ORD0562Q609	56 1/4W(3 5% TA52
		R905	ORX4702K665	47K OHM 2 W 5% SF
		R908	ORN0220H609	0.22 1/2W 5% TA52
		R909	ORD1002Q609	10K 1/4W(3 5% TA52
⚠		R910	ORD1802Q609	18K 1/4W(3 5% TA52
⚠		R911	ORN6800F409	680 1/6W 1% TA52
		R912	ORD1001Q609	1K 1/4W(3 5% TA52
		R913	ORB0120K607	0.12 OHM 2 W 5% TA62
		R914	ORD1500Q609	150 1/4W(3 5% TA52
		R915	ORD8203Q609	820KOHM 1/4 W (3.4) 5% TA52
		R916	ORD8203Q609	820KOHM 1/4 W (3.4) 5% TA52
		R917	ORD1000Q609	100 1/4W(3 5% TA52
		R918	ORD1003Q609	100K 1/4W(3 5% TA52
		R919	ORD2002Q609	20K 1/4W(3 5% TA52
		R920	ORD0332Q609	33 1/4W(3 5% TA52
		R921	ORD0332Q609	33 1/4W(3 5% TA52
		R922	ORD5101Q609	5.10K 1/4W(3 5% TA52
		R924	ORD1500Q609	150 1/4W(3 5% TA52
		R925	ORD1001Q609	1K 1/4W(3 5% TA52
		R926	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R928	ORC0102J709	10 OHM 1 W 10% TA52
		R941	ORD2703A609	270K OHM 1/2 W (7.0) 5% TA52
		R942	ORP0100J709	0.1 OHM 1 W 10% TA52

DATE: 2002. 7. 04.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R949	ORN0220H609	0.22 1/2W 5% TA52
		R950	ORD1002Q609	10K 1/4W(3 5% TA52
		R951	ORD1101A609	1.1K OHM 1/2 W (7.0) 5% TA52
		R952	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R953	ORD1002Q609	10K 1/4W(3 5% TA52
		R954	ORD4700A609	470 OHM 1/2 W (7.0) 5% TA52
		R955	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R961	ORD3900Q609	390 1/4W(3 5% TA52
		R970	ORX4702K607	47KOHM 2 W 5% TA62
		R971	ORD2703Q609	270K 1/4W(3 5% TA52
		R972	ORD2703Q609	270K 1/4W(3 5% TA52
		R973	ORD0392Q609	39 1/4W(3 5% TA52
		R974	ORB0101J609	1 OHM 1 W 5% TA52
		R975	ORD0222Q609	22 1/4W(3 5% TA52
		R976	ORD1000Q609	100 1/4W(3 5% TA52
		R977	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R978	ORN1501F409	1.5K 1/6W 1 TA52
		R979	ORN1501F409	1.5K 1/6W 1 TA52
		R981	ORD1001Q609	1K 1/4W(3 5% TA52
		R990	ORD0512Q609	51 1/4W(3 5% TA52
		R991	ORD5101Q609	5.10K 1/4W(3 5% TA52
		R992	ORD5101Q609	5.10K 1/4W(3 5% TA52
OTHERs				
		F901	0FZZTTH001B	TIME LAG HBC 5A/250V,215 005.L
		J113	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM A
		J313	ORD0432Q609	43 OHM 1/4 W (3.4) 5% TA52
		J331	ORD0432Q609	43 OHM 1/4 W (3.4) 5% TA52
		J332	ORD0432Q609	43 OHM 1/4 W (3.4) 5% TA52
		J82	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM A
		RL901	6920TBB006A	DY3M-DC12V DONGYANG 250VAC 5A
		SC301	6620TBD003A	PCS701E PARK ELEC. 10PIN 14/36
		SC901	6200TJB001H	02MD1 DELTA BK W/O GND
		SG301	6918TAT005E	MTAS-201M GIGA AXIAL TAPING
		SG302	165-004A	AG20PT 152F-L3N/S-23 HANDOK RA
		SG303	6918TAT005E	MTAS-201M GIGA AXIAL TAPING
		SG304	6918TAT005E	MTAS-201M GIGA AXIAL TAPING
		SG305	6918TAT005E	MTAS-201M GIGA AXIAL TAPING
		SG701	165-004A	AG20PT 152F-L3N/S-23 HANDOK RA
		SW201	140-058D	SKHV10911A LGEC NON 12 20 HORI
		SW202	140-058D	SKHV10911A LGEC NON 12 20 HORI
		SW203	140-058D	SKHV10911A LGEC NON 12 20 HORI
		SW204	140-058D	SKHV10911A LGEC NON 12 20 HORI
		SW205	140-058D	SKHV10911A LGEC NON 12 20 HORI
		SW206	140-058D	SKHV10911A LGEC NON 12 20 HORI
		SW207	140-058D	SKHV10911A LGEC NON 12 20 HORI
		SW801	140-079C	SLS-1301 SW NON 30 0 HORIZENTA
⚠		T701	6174T13010C	"FQM19A008,EB990G SAMSUNG 19""
		T801	6140TDZ009A	- GET EER2834,DUMMY,EB990G
		T802	6170TCZ008C	EI2218 1.48MH FB990G
		T901	6170TMZ130A	EER4445S 135UH V-18PIN EB990G
		T903	6170TMZ131A	EE2525F 820UH V-10PIN EB790G S
		TH901	6322TB070AA	J503P63D070M290S JA HWA +/- 20
		VR801	180-035Q	EVN-DJAA03B24 (MEC),20KB
		VR901	180-035C	EVN-DJAA03B22 (MEC),200B
		X1	6202TTB001A	HC-49/U SUNNY E 6.000000MHZ 30
		X401	6202TTB003B	HC-49/U HARMONY RADIAL 12MHZ 3

PIN CONFIGURATION

M62501P /FP

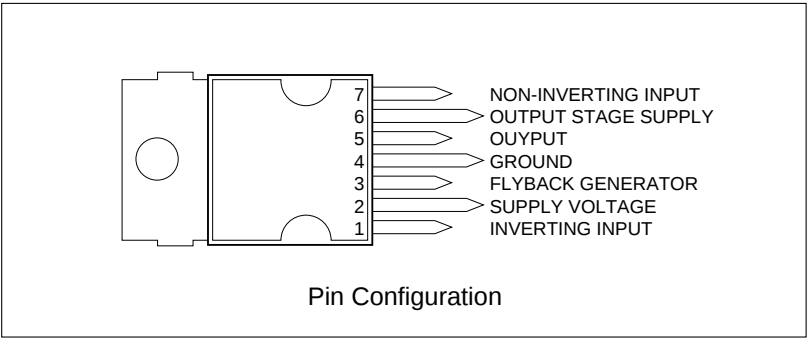
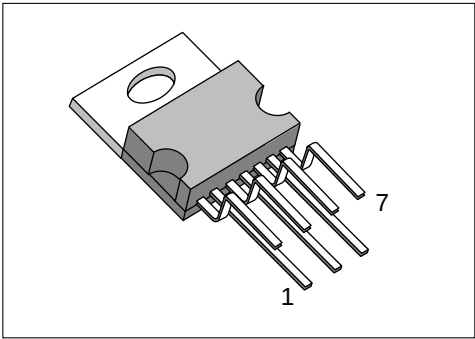
PIN CONFIGURATION(TOP VIEW)



Teerminal Number and The facility

PIN NO.	Symbol	Functional Description
1	PWM OUT	PWM output terminal
2	Vcc	Power supply terminal
3	TIN	Trigger Input terminal
4	CAGC	This pin is used to set oscillating frequency
5	CAGC	This pin is used for AGC setting
6	P.OUT	Output terminal of error signal
7	OVP	Input terminal of Over Voltage Protection
8	UVP	Input terminal of Under Voltage Protection
9	BI	Postive Input terminal of Buffer Amp
10	BO	Output terminal of Buffer Amp
11	IN ⁺	Postive Input terminal of OP Amp
12	IN ⁻	Negative Input terminal of OP Amp
13	FB	Output terminal of OP Amp
14	DTC	Dead time control terminal(Soft start function)
15	VREF	Output terminal of reference voltage (5V)
16	GND	Ground terminal

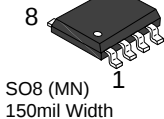
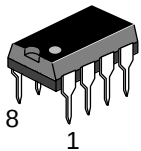
TDA8172 Vertical Deflection Output Circuit



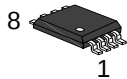
M24C08

Serial I²C BUS EEPROM

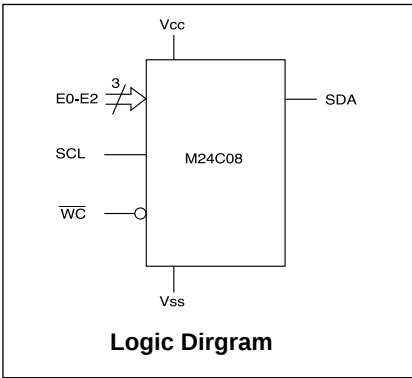
PSDIP8 (BN)
0.25mm Frame



SO8 (MN)
150mil Width



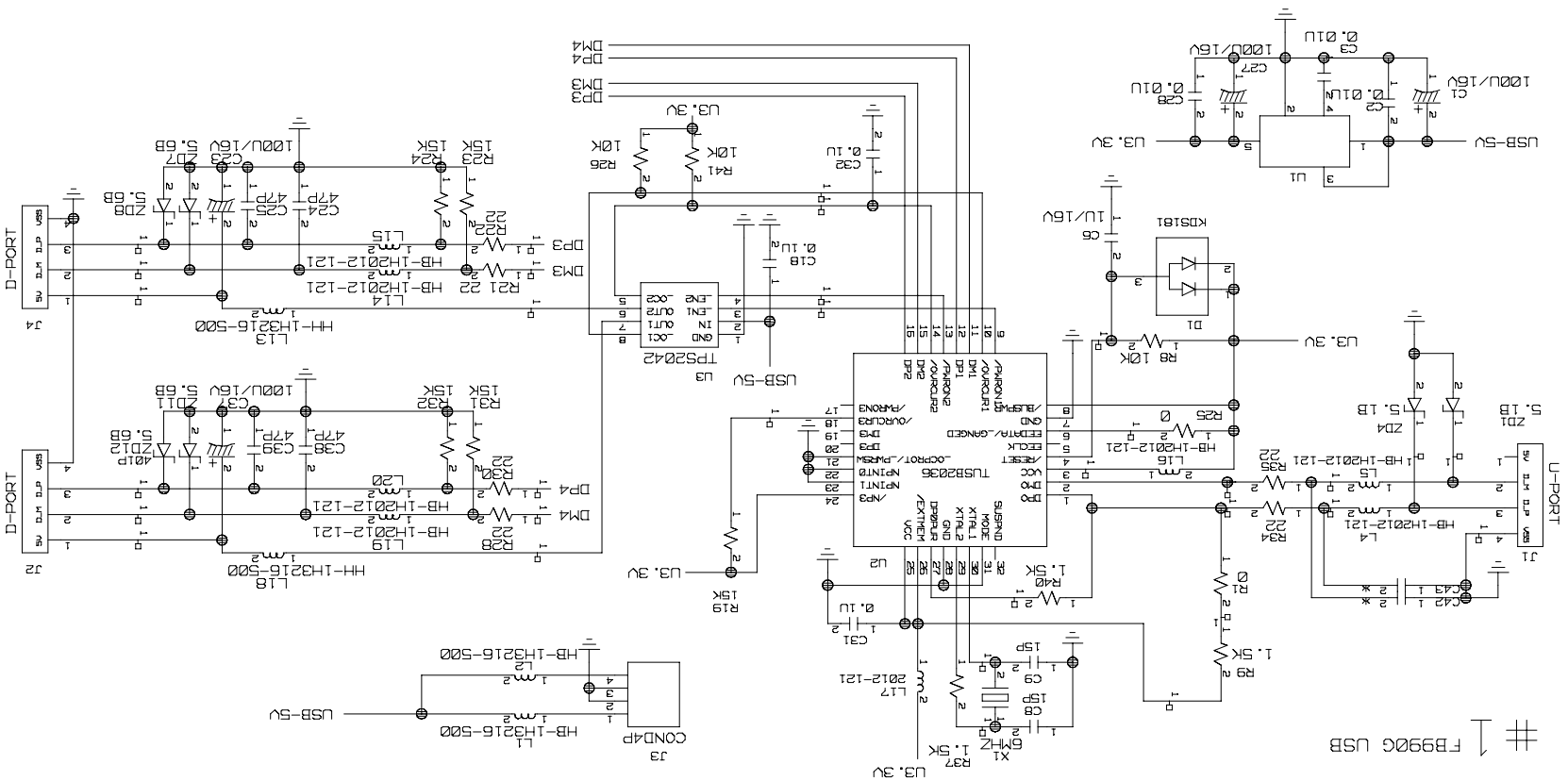
TSSOP8 (DW)
169mil Width



SYMBOL	DESCRIPTION
E0-E2	Chip Enable Input
SDA	Serial Data Address Input/Output
SCL	Serial Clock
WC	Write Control
Vcc	Supply Voltage
Vss	Ground

SCHEMATIC DIAGRAM AND PRINTED CIRCUIT BOARD

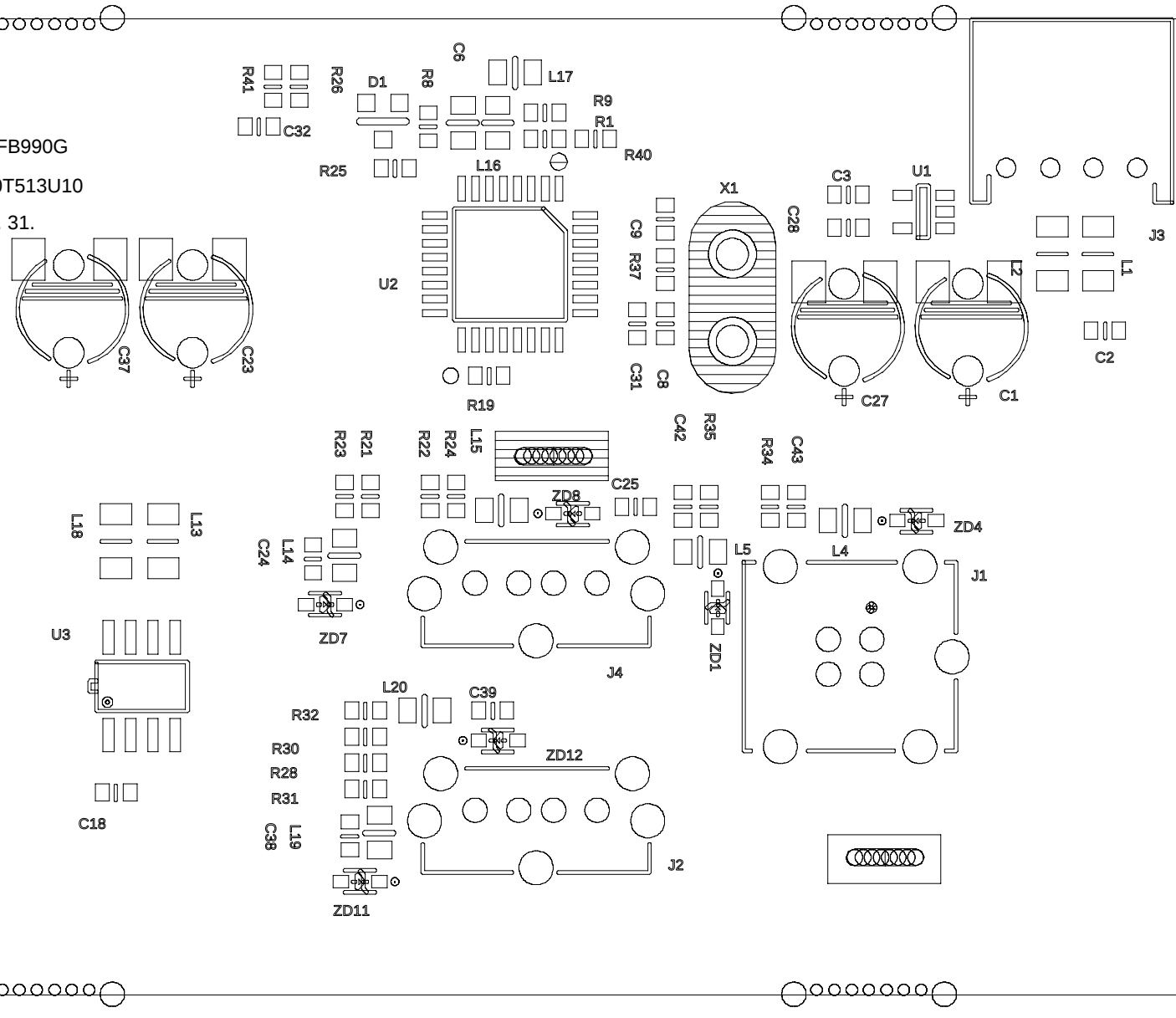
1. SCHEMATIC DIAGRAM OF USB

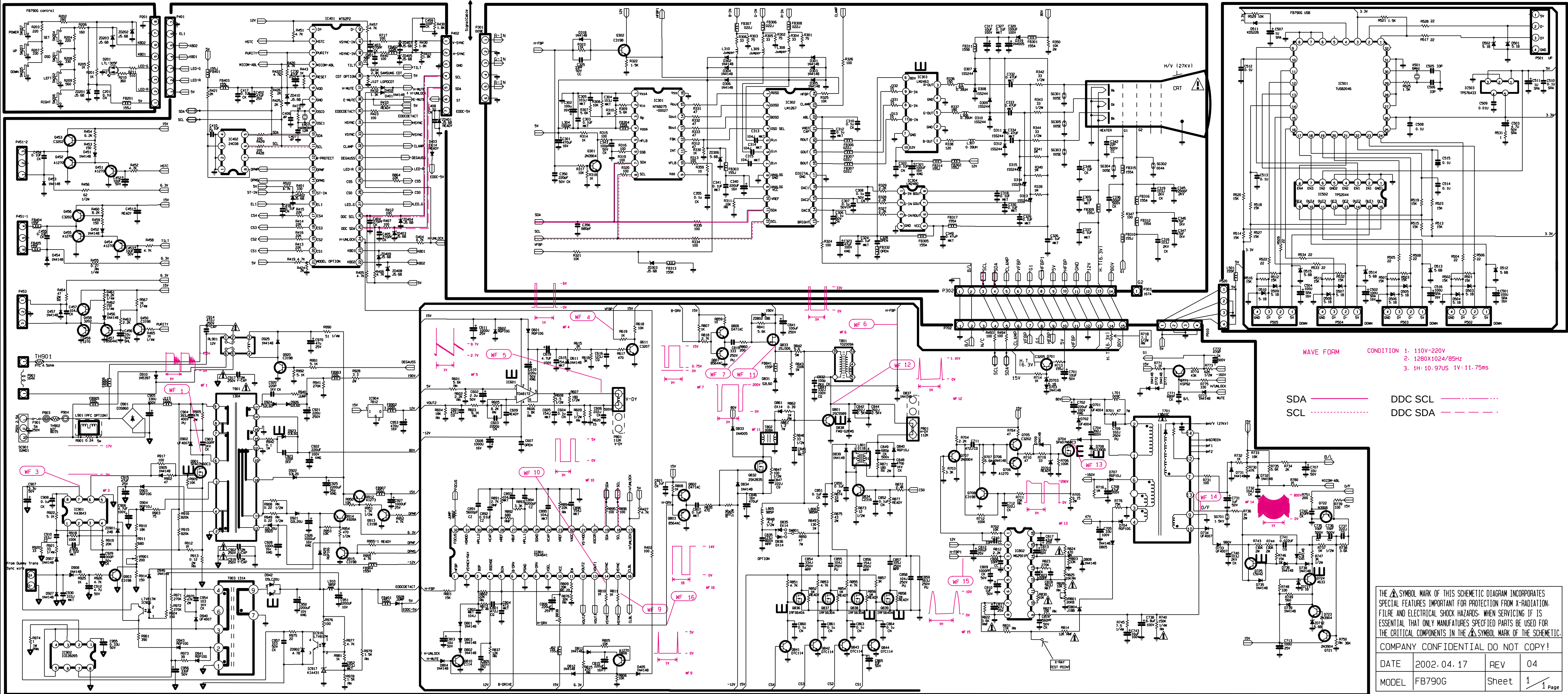


2. USB BOARD (Component Side)



MODEL:FB990G
P/N:6870T513U10
2002. 05. 31.





1. CONTROL BOARD (Component Side)

