

SERVICE BULLETIN

PRODUCT: Computer Monitor
BULLETIN: Monitor 95-003
MODEL: CMG7377L

SUBJECT: CRT Substitution

BACKGROUND: Samsung is supplying three different CRT manufacturers with the CMG7377L monitor. Parts differ in the heater, high voltage, and deflection circuits as well as the degaussing coil rating.

SOLUTION: The parts that differ from each other are listed in the parts list below.

PARTS LIST: See the back of this cover page.

Disclaimer: This information is provided "as is" without warranty of any kind either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Location No.	Hitachi CRT	SDD CRT	Mitsubishi CRT
CRT	(TYPE:M41KVZ680X72) (CODE : 897-250144CA(UQ))	(TYPE:M41KUN36X01) (CODE : 897-250183AA)	(TYPE:M41KXH100X06) (CODE : 897-250171AA)
FBT	FSW-17A002 (CODE : 923-460167BA)	FSW-17002 (CODE : 923-460167BA)	FSW-17002A (CODE : BH26-10003A)
R527	REF-CF, 180K, 5%, 1/6W (CODE : 911-161607YA)	REF-CF, 220K, 5%, 1/6W (CODE : 911-162207Y)	REF-CF,100K, 5%,1/6W (CODE : 911-16100YA)
R616	REF-FUSIBLE, 1..8, 5% (CODE : 911-611807LA)	REF-FUSIBLE, 1.8, 5% (CODE : 911-811807LA)	REF-FUSIBLE, 2.2 (CODE : 2008-000002)
T504	TRANS-FOCUS, 100/650T (CODE : 923-480157GA)	TRANS-FOCUS, 100/600T (CODE : 923-480167HA)	TRANS-FOCUS, 100/850T (CODE : BH26-30018A)
R215	REF-CF, 3.9K, 5%, 1/6W (CODE : 911-143907YA)	REF-CF, 3.9K, 5%, 1/6W (CODE : 911-143907YA)	R-CAR, 2.2K, 1/6W (CODE : 911-142207QJAL)
C428	CAP-MPP, 250V, 104J (CODE : 916-656100QJAL)	CAP-MPP, 250V, 104J (CODE : 916-656100QJAL)	C-MPP, 250V, 274J 916-656270QJAL)
SK501	DSP-301N (CODE : 04569-002-210)	DSP-301N (CODE : 04569-002-210)	SPARK GAP, 1KV (CODE : 04569-001-110)
SK502	DSP-301N (CODE : 04569-002-210)	DSP-301N (CODE : 04569-002-210)	JUMPER WIRE
D-COIL	D-COIL, 8.45MH,9.45 0HM (CODE : 925-460193CA)	D-COIL, 8.45MH,9.45 0HM (CODE : 925-460193CA)	D-COIL, 102T, 12.6 OHM (CODE : BH27-10006A)
R326	REF-CF, 18K, 5%, 1/6W (CODE : 911-151807YA)	REF-CF-C, 27K, 5%, 1/6W (CODE : 911-162707YA)	REF-CF, 18K, 5%, 1/6W (CODE : 911-161807YA)

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SERVICE BULLETIN

PRODUCT: Computer Monitor
BULLETIN: Monitor 95-004
MODEL: CMB5477L

SUBJECT: CRT Substitution

BACKGROUND: Samsung is manufacturing the CMB5477L with three different manufacturer's CRTs. Each type of CRT has parts that differ in the heater, brightness, and the deflection circuits.

SOLUTION: The parts that differ from each other are listed in the parts list below.

PARTS LIST: See the back of this cover page.

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Location No.	Phillips CRT	Toshiba CRT	SDD CRT
CRT	TYPE : M36EDR320X (CODE : 897-250089AA)	TYPE : M36KUT23XX01 (CODE : 897-250192AA)	TYPE : M36KUK35X02 (CODE : 897-250134AA)
R209	R-CAR, 10K, 1/6W (CODE : 911-151007YA)	R-CAR, 15K, 1/6W (CODE : 911-151507AA)	R-CAR, 15K, 1/6W (CODE : 911-151507AA)
R463	R-CAR, 15K, 1/6W (CODE : 911-151507AA)	R-CAR, 10K, 1/6W (CODE : 911-151007YA)	R-CAR, 15K, 1/6W (CODE : 911-151507AA)
R461	R-M, OXIDE, 1.5, 3W (CODE : 911-311507LFXA)	R-M, OXIDE, 1.2, 3W (CODE : 911-311207JF)	R-M, OXIDE, 1.2, 3W (CODE : 911-311207JF)
R184	R-CAR, 100K, 1/6W (CODE : 911-161007YA)	R-CAR, 75K, 1/6W (CODE : 911-157507YA)	R-CAR, 100K, 1/6W (CODE : 911-161007YA)
JP25	JUMPER WIRE	R-CAR, 27K, 1/6W (CODE : 911-152707YA)	JUMPER WIRE
L403	COIL-CHOKE, 57UH (CODE : 925-460191FA)	COIL-CHOKE, 100UH (CODE : 925-460192BA)	COIL-CHOKE, 100UH (CODE : 925-460192BA)
R630	R-M, OXIDE, 2.7, 3W (CODE : 911-312707LF)	R-M, OXIDE, 2.7, 3W (CODE : 911-312707LF)	R-M, OXIDE, 1.5, 3W (CODE : 911-311507LFXA)
R631	R-M, OXIDE, 3.9, 3W (CODE : 911-313907LF)	R-M, OXIDE, 3.9, 3W (CODE : 911-313907LF)	R-M, OXIDE, 1.5, 3W (CODE : 911-311507LFXA)
R307	R-CAR, 470, 1/2W (CODE : 911-134707FF)	R-CAR, 470, 1/2W (CODE : 911-134707FF)	R-CAR, 330, 1/2W (CODE : 911-133307FF)
C461	C-M, P.P, 1.6KV, 552-J (CODE : 916-944550YJAX)	C-M, P.P, 1.6KV, 552-J (CODE : 916-944550YJAX)	C-M, P.P, 1.6KV, 502-J (CODE : 916-354560YJAX)
R472	R-M, OXIDE, 180, 2W (CODE : 911-331807JF)	R-M, OXIDE, 180, 2W (CODE : 911-331807JF)	R-M, OXIDE, 75, 2W (CODE : 911-331807JA)
D428	NONE	NONE	RGP02-12 (CODE : 02169-206-297)
R414	R-M.F, 22K, 1/4W (CODE : 911-452205DA)	R-M.F, 24K, 1/4W (CODE : 911-452405DA)	R-M.F, 24K, 1/4W (CODE : 911-452405DA)
R444	R-M, OXIDE, 1.2, 2W (CODE : 911-311207JF)	R-M, OXIDE, 1.5, 2W (CODE : 911-311507JF)	R-M, OXIDE, 1.5, 2W (CODE : 911-311507JF)
R422	R-M, OXIDE, 1.2, 2W (CODE : 911-311207JF)	R-M, OXIDE, 1.5, 2W (CODE : 911-311507JF)	R-M, OXIDE, 1.5, 2W (CODE : 911-311507JF)
L407	H-LIN, COIL, 4.9UH (CODE : 923-460191EA)	H-LIN, COIL, 4.9UH (CODE : 923-460191EA)	H-LIN, COIL, 4.7UH (CODE : BH26-30027A)
T403	H-PULSE, TRANS, 1.0MH (CODE : 923-460169DA)	H-PULSE, TRANS, 1.5MH (CODE : BH26-30023A)	H-PULSE, TRANS, 1.5MH (CODE : BH26-30023A)
C419	C-POLY, 100V, 102-J (CODE : 916-164100LJAH)	C-POLY, 100V, 182-J (CODE : 916-164180LJAH)	C-POLY, 100V, 182-J (CODE : 916-164180LJAH)
R207	R-CAR, 9.1K, 1/6W (CODE : 911-149107YA)	R-CAR, 4.7K, 1/6W (CODE : 911-144107YA)	R-CAR, 4.7K, 1/6W (CODE : 911-144107YA)

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SERVICE BULLETIN

PRODUCT: Computer Monitor
BULLETIN: Monitor 95-005
MODEL: Samtron SC-428PS

SUBJECT: Vertical Deflection Circuit Improvement

BACKGROUND: The Samtron 14 inch computer monitor SC-428PS has no vertical deflection after power up due to IC301 (TDA4866) and R301 failing. The problem is likely to occur with the serial number range of A9524002821 to A9538025160. Serial numbers after A9538025160 use a different IC301 (TDA8351). These are not interchangeable without making various circuit changes to meet the specifications of the new IC301.

SOLUTION: The counter measure to keep the original IC301 (TDA4866) from failing is done by improving the grounding on the monitor. Two ground lugs and two additional ground wires have been added. See the attached page for mounting procedures.

PARTS LIST: Below are the parts added to Serial Number Range A9524002821 to A9538025160

Location No.	Part No.	Description
None	3621200274	Wireform UL1015-AWG 22 200 mm BK
None	3112400051	GND Lug 54 X 18 X 30 X 0.35T

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Mounting Procedure - Add a ground lug to point A and point D as in the figure shown below. Take the 200mm wires and route them through the holes labeled E and F in the main pcb as in the diagram below. The holes are located next to the IC301 heatsink. Solder the 200mm wires to the heatsink solder connection located nearest to the routed wire hole. The other end of the 200mm wires are to be soldered to the CRT ground wire as shown below.

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SERVICE BULLETIN

PRODUCT: Computer Monitor
BULLETIN: Monitor 95-006
MODEL: Samtron SC-428PS

SUBJECT: Vertical Circuit Modification

BACKGROUND: The vertical output IC301 has been changed from a TDA4866 to a TDA8351. The circuit change was made with serial numbers higher than A95025160. The circuit change was made due to the failure of IC301 in some cases during power up.

SOLUTION: The circuitry around IC301 was changed to meet the specifications of the TDA8351.

PARTS LIST:

	SN. A9524002821 TO A9538025160		SN. A9538026160 TO ?	
Location No.	Part No.	Description	Part No.	Description
C306	NONE	NONE	1218204707	C-CERAMIC 47PF, 50V
R310	NONE	NONE	1412104229	R-CARBON 4.2K, 1/6W
R303	1413401021	R-CARBON 1K, 1/4W	1413402214	R-CARBON 220, 1/4W
R304	1414201R01	R-CARBON 1, 1/2W	1433601R0B	R-CARBON 1, 1W
R307	141420R508	R-CARBON 0.5, 1/2W	1433601R0B	R-CARBON 1, 1W
IC301	2332290235	IC, TDA4866	2332190339	IC, TDA8351

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SERVICE BULLETIN

PRODUCT: COMPUTER MONITOR
BULLETIN: MONITOR 95-007
MODEL: CQB4147

SUBJECT: No Raster

BACKGROUND: There is a delay in the 12V/DC operation. Due to the delay the 166V/DC line operates first when power is first applied to the monitor. This will affect the horizontal circuit and cause a surge, which in turn will cause Q403 and Q408 to short.

SOLUTION: Insert a IN4937 diode into location D300 and substitute R401 (33 ohm, 1/2W) with a 220 uH coil.

PARTS LIST:

Location	Original Parts		New Parts	
	Parts Code	Description	Parts Code	Description
R401	911-123307FF	R-Carbon, 33, 1/2w	925-001001AN	Coil, 220 uH
D300	None	None	893-314937AC	Diode, IN4937

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SERVICE BULLETIN

PRODUCT: COMPUTER MONITOR
BULLETIN: MONITOR 95-008
MODEL: SAMTRON SC-428PT/L

SUBJECT: No Raster

BACKGROUND: There is a delay in the 12V/DC operation. Due to the delay the 166V/DC line operates first when power is first applied to the monitor. This will affect the horizontal circuit and cause a surge, which in turn will cause Q403 and Q408 to short.

SOLUTION: Insert a IN4937 diode into location D300 and substitute R401 (33 ohm, 1/2W) with a 220 uH coil.

PARTS LIST:

	Original Parts		New Parts	
Location	Parts Code	Description	Parts Code	Description
R401	911-123307FF	R-Carbon, 33, 1/2w	925-001001AN	Coil, 220 uH
D300	None	None	893-314937AC	Diode, IN4937

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SERVICE BULLETIN

PRODUCT: Computer Monitor
BULLETIN: MON 97-001
MODEL: CQB4147

SUBJECT: Reduce Q404 Failure Rate Causing No Raster

BACKGROUND: Q404 fails when the monitor changes from the DPMS Suspend mode back to Normal operation. Q415 is designed, in the circuit, to cut off horizontal drive to the base of Q404. This is achieved by turning Q415 on in the Suspend mode. In normal operation, Q415 is turned off. There is a delay in turning Q415 off by approximately 15 ms. This will cause an abnormal pulse at the base of Q404, causing damage to the transistor.

SOLUTION: The base current limiting resistance to Q415 has been changed by decreasing the values of R200 and R461.

PARTS LIST:

ORIGINAL			NEW	
Location No.	Part No.	Description	Part No.	Description
R200	2001-000056	R-CF 4.7K, 1/6W	2001-000043	R-CF 1K, 1/6W
R461	2001-000056	R-CF 4.7K, 1/6W	2001-000029	R-CF 100 OHM, 1/6W

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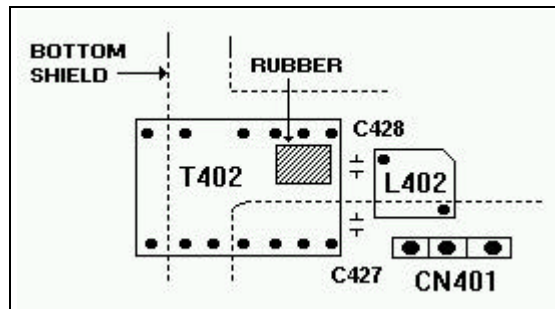
SERVICE BULLETIN

PRODUCT: Computer Monitor
BULLETIN: MON 97-002
MODEL: CMH7379L

SUBJECT: To prevent whistling sound from occurring.

BACKGROUND: A whistling sound is created from harmonic noise generated between T402, L402, and the main PCB near the Flyback Transformer.

SOLUTION: Add a piece of rubber to insulate the main PCB solder side from the bottom metal shield. See Illustration below showing the section of the PCB where the rubber will be located.



PARTS LIST:

Part No.	Description
BH61-30303A	RUBBER

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SERVICE BULLETIN

PRODUCT: Computer Monitor
BULLETIN: MON 97-003
MODEL: CQB4147

SUBJECT: Improve the Horizontal Output Transistor Quality

BACKGROUND: The horizontal output for the CQB4147 has been changed as of May 1, 1997. The BU2508DF, which had been used prior to this date, has been failing intermittently due to a current surge from the 166 volt B+ line. The current surge is caused mainly from the DPMS off mode recovery.

SOLUTION: The circuit has been improved by using a 2SC5149, which has a higher hfe than the originally used BU2508DF.

PARTS LIST:

ORIGINAL			NEW	
Location No.	Part No.	Description	Part No.	Description
Q403	0502-000007	BU2508DF	0502-000005	2SC5149

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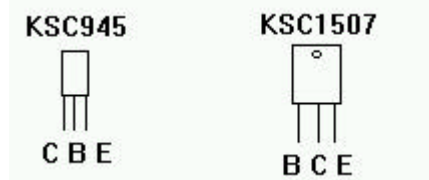
SERVICE BULLETIN

PRODUCT: Computer Monitor
BULLETIN: MON 97-004
MODEL: CFX1577L

SUBJECT: Vertical Positioning Shifted Off Center

BACKGROUND: Q302 and R327 fail in the vertical positioning circuit. The failure is caused by a current surge during power up and from the monitor recovering from an extended period in the DPMS Suspend mode.

SOLUTION: Replace Q302, Q303, and R327 with different ratings. Production went under these changes as of February 1, 1997. Observe the pin configuration when replacing Q302.



PARTS LIST:

ORIGINAL			NEW	
Location No.	Part No.	Description	Part No.	Description
Q302	0501-000586	KSC945, 150mA	0502-000006	KSC1507, 200mA
Q303	0501-000008	KSC733C, 150mA	0501-000294	KSA708, 700mA
R327	2001-000526	R-CARBON, 1/6 W	2003-000590	MO, 2W, 22 ohm

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SERVICE BULLETIN

PRODUCT: Computer Monitor

BULLETIN: MON 97-005

MODEL: CMH7379L

SUBJECT: Q407 Failure Causing No Raster or Small Horizontal Size

BACKGROUND: Q407 fails due to a transient pulse and current when mode switching from DOS to Windows. This occurs with a Matrox video card installed in the computer.

SOLUTION: Add a sub-PCB assembly as in figures 1 and 2 and a snubbing circuit for the horizontal output as in figure 3.

PARTS LIST:

ORIGINAL			NEW	
Location No.	Part No.	Description	Part No.	Description
NA	NA	NA	BH92-50106J	SUB-PCB ASSEMBLY
NA	NA	NA	BH39-40355S	4 PIN CBF-HARNESS
NA	NA	NA	6003-000129	TAPTITE SCREW
NA	NA	NA	0401-000005	1N4148 DIODE
NA	NA	NA	0402-000012	UF4007 DIODE
NA	NA	NA	2003-000009	220 OMHS, 1 WATT

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Figure 1

Top View of the Main Board

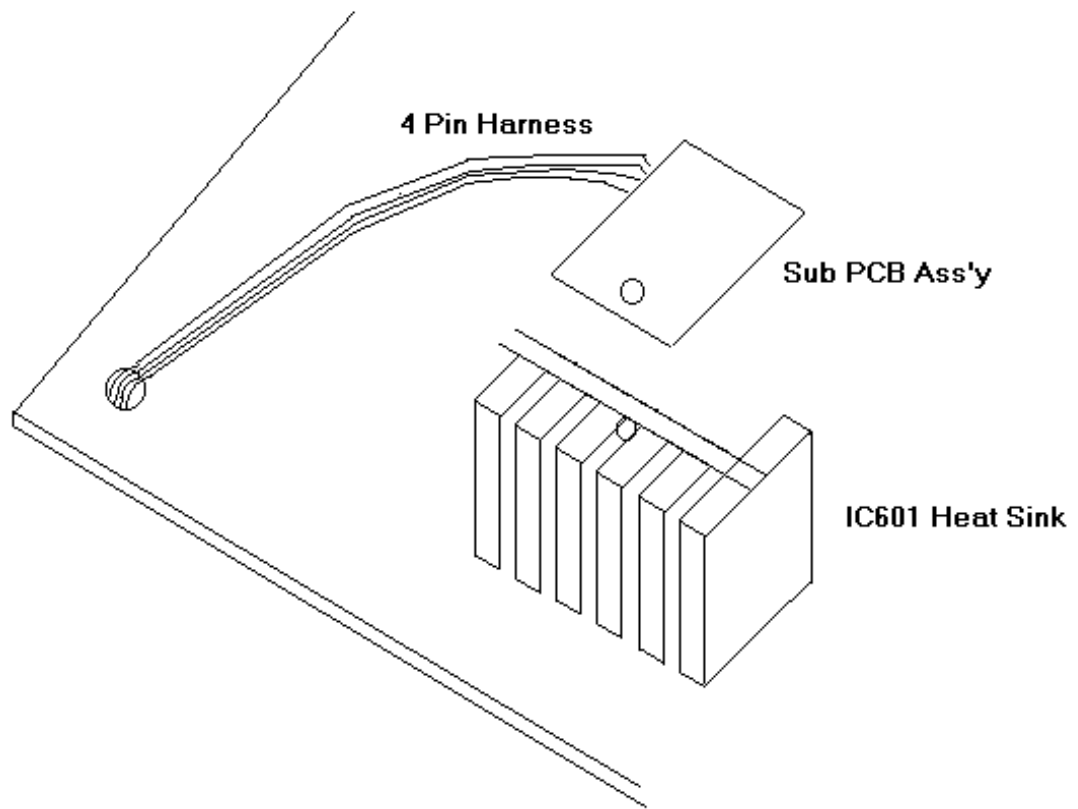


Figure 2

Bottom View of the Main Board

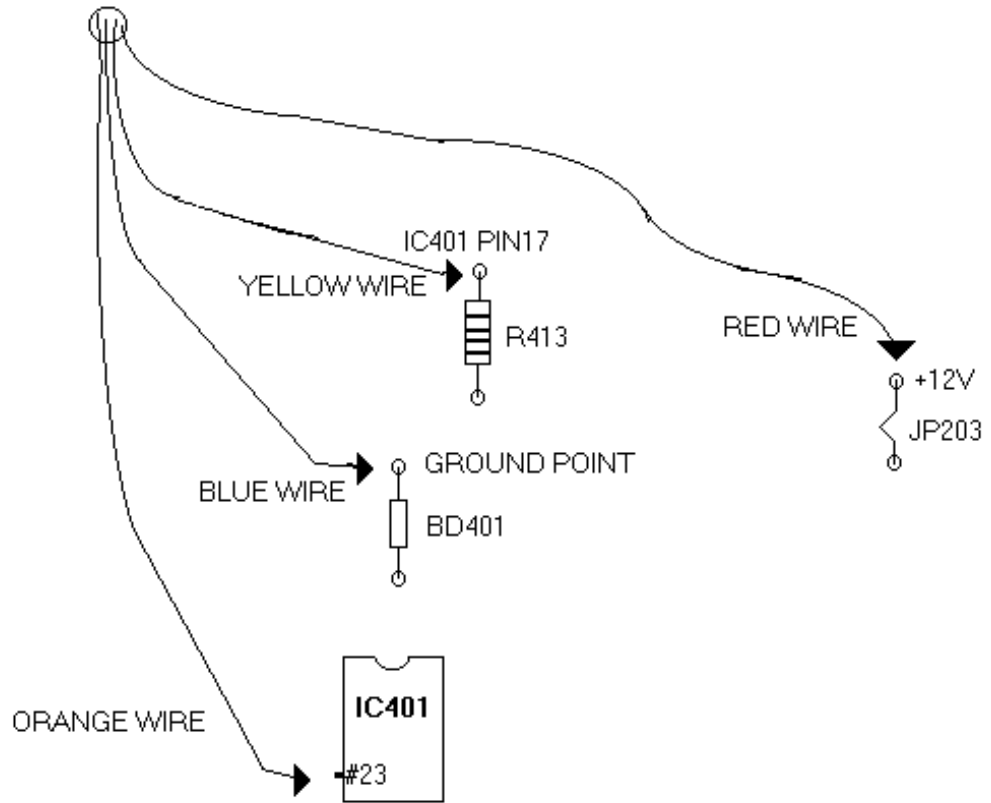
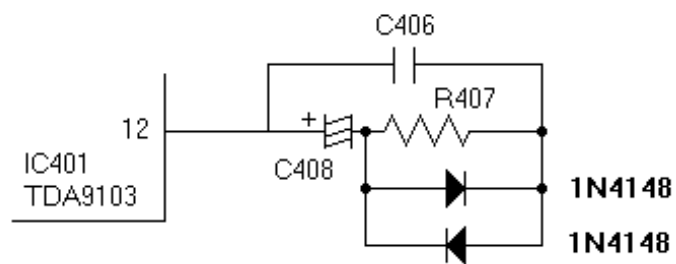
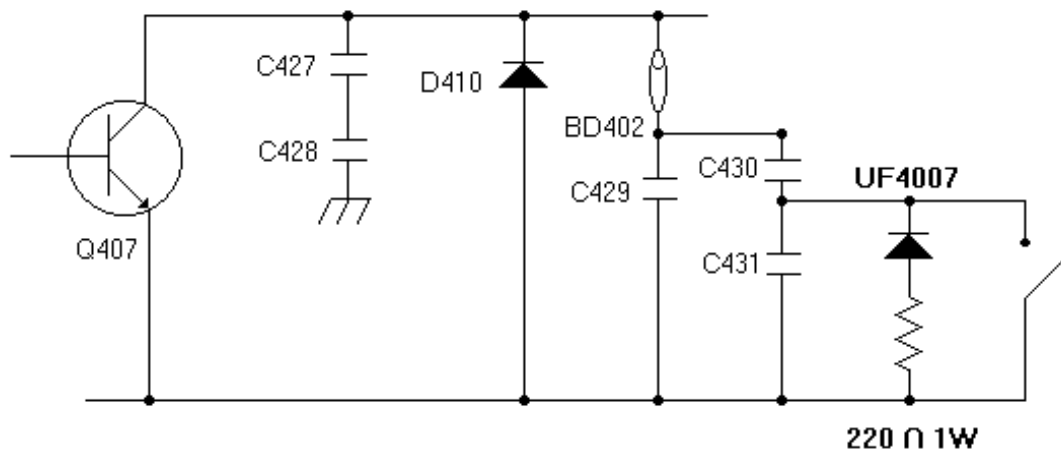


Figure 3

Snubbing Circuits



SERVICE BULLETIN

PRODUCT: Computer Monitor
BULLETIN: MON 97-007
MODEL: CMB5477L

SUBJECT: Flyback Transformer Revisions

BACKGROUND: Samsung instituted new revision flyback transformers as of October 24, 1996. The new flyback transformer will prevent intermittent no raster conditions. The revised flyback transformers that have been applied to the latest production runs will have resistance values changed in the x-ray protection and the high voltage adjustment circuits.

SOLUTION: When replacing a flyback transformer refer to the parts list below. The resistance values should be changed accordingly. If the resistance values are different from the flyback transformers listed below, intermittent no raster or shutdown conditions will exist. Refer back to the original parts list and schematic located in the service manual for any flyback transformer without a revision number or label on it.

PARTS LIST:

ORIGINAL			NEW	
Location No.	Part No.	Description	Part No.	Description
T402	BH26-10303V	REV.04 FSA15A003 SAMSUNG	BH26-10303V	REV.05 & REV.06 FSA-15A003 SAMSUNG
R516	2004-001319	1/4W, 86k ohm	2004-001349	1/4W, 91k ohm
R411	2001-000054	1/4W, 3.9k ohm	2004-000899	1/4W, 4.7k ohm
R412	2001-000722	1/4W, 4.3k ohm	2004-000698	1/4W, 3.3k ohm

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SERVICE BULLETIN

PRODUCT: Computer Monitor
BULLETIN: MON 97-008
MODEL: CFG9637

SUBJECT: Video Pre-amp (LM1205) Failure Causing No OSD

BACKGROUND: The OSD blanking input stage of IC101 (LM1205) shorts to the Vcc input stage due to CRT discharging and surge current.

SOLUTION: Add a 7.5V zenor diode between pin 13 of IC101 and ground (cathode to pin 13 and anode to ground). Replace jumper wire JP104 with a 100 ohm ½ watt resistor. The resistor will act as a delay and improve the R,G,B surge absorbers discharge effect. Replace the 300V spark gaps at each of the Red, Green, and Blue cathodes of the CRT with 200V surge absorbers.

PARTS LIST:

ORIGINAL			NEW	
Location No.	Part No.	Description	Part No.	Description
NA	NA	NA	0403-000366	ZD 7.5V
JP104	NA	JP104	2001-000028	R-CF(S), 100 ohm, 1/2W
SGR1	4715-000106	300V, Surge Absorber	4715-000102	200V, Surge Absorber
SGB1	4715-000106	300V, Surge Absorber	4715-000102	200V, Surge Absorber
SGG1	4715-000106	300V, Surge Absorber	4715-000102	200V, Surge Absorber

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SERVICE BULLETIN

PRODUCT: Computer Monitor

BULLETIN: MON 97-009

MODEL: CMB5477L

SUBJECT: Video Pre-amp IC101 (LM1207) Failure

BACKGROUND: IC101 becomes damaged from arcing within the CRT during electronic discharge.

SOLUTION: Add a 300V spark gap in between the G1 grid of the CRT and ground. This will aid in reducing the discharge effect from the CRT.

PARTS LIST:

ORIGINAL			NEW	
Location No.	Part No.	Description	Part No.	Description
NA	NA	NA	4715-000106	300V, Surge Absorber

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SERVICE BULLETIN

PRODUCT: Computer Monitor
BULLETIN: MON 97-010
MODEL: CQA4147, CQB4147

SUBJECT: No Raster

BACKGROUND: D618, which is the rectifier diode for the 166V line, burns due to a reverse peak voltage that occurs when power is turned off.

SOLUTION: A snubbing capacitor must be added in parallel with D618 in order to prevent this from occurring. This capacitor should be added to all CQB and CQA chassis as a preventative maintenance.

PARTS LIST:

ORIGINAL			NEW	
Location No.	Part No.	Description	Part No.	Description
C643	NA	NA	2201-000012	C-CERAMIC DISK, 220pf, 10%, 1KV

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