

TELEVISION TECHNICAL BULLETIN

<u>MODELS</u>	56FW53H	66FW53H	66FW54H	76FW53H
	76FW54H	59ESD7H	66ESD7H	28HW53H
	66GF63H	66GF64H	76GF64H	

SYMPTOM In some cases the HT can rise to over 200V, this can cause damage to other parts of the circuitry

CAUSE Failure of IC705 - power supply feedback opto coupler.

ACTION In most cases, when the HT rises D735 fails and no other components are damaged. Replace D735 and IC705 using the part numbers listed below. (D735 may be soldered under C720)

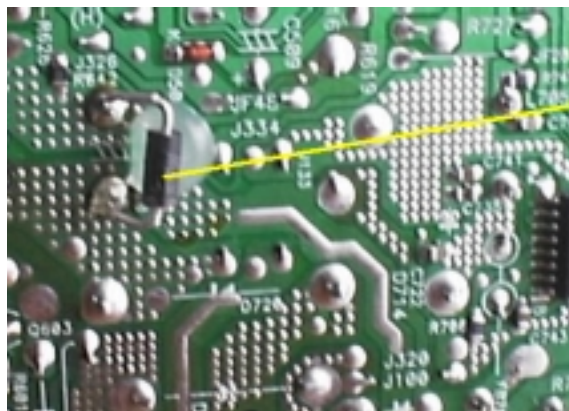
If after the above the set remains in trip mode, other components may have failed, the table below gives details.

Ref	Function	Part Number	Comment
Q602	Horizontal output transistor	RH-TX0192BMZZ	Leaky or short circuit
IC301/2	Audio output IC's	VHITDA7480/-1	Short circuit. Also check supply feed chokes
IC1801	CDA IC on CRT base PWB	Refer to service manual	Short circuit. Check pin 5 to ground (<500Ω)
C720	HT reservoir capacitor	RC-EZ0258CEZZ	Physically damaged
IC1301	Centre channel amplifier	VHITDA7480/-1	Short circuit. Located on centre speaker PWB
Q5407	Scan velocity modulator transistor	VS2SA1837//1	CRT PWB – short or open circuit
Q5408	Scan velocity modulator transistor	VS2SC4793//1	CRT PWB – short or open circuit
L315/316	IC302 feed chokes	VP-CF3R3K0000	Open circuit
L350/351	IC301 feed chokes	VP-CF3R3K0000	Open circuit

The opto coupler is easily damaged by excessive heat while soldering, so remember to keep your soldering iron temperature turned down to 250°C or below, and not to solder for more than 10 seconds on each leg. If these conditions are not met the transparent barrier between the LED and opto transistor will be damaged. Note that sometimes the set will work for several weeks or months before failing if the opto has been damaged during fitting.

To alleviate damage to other parts of the circuitry when the HT rises, an avalanche diode was fitted across the main HT smoothing capacitor (C720) from late 1999 production. This device has a rated maximum voltage of 170V, and will go short circuit if this voltage is reached. This diode must be fitted to all chassis (part number RH-EX0875BMZZ).

Location of D735 (note the use of hot melt glue to prevent the diode from shorting out to the tracking)



Location of D735 on the print side of the PWB

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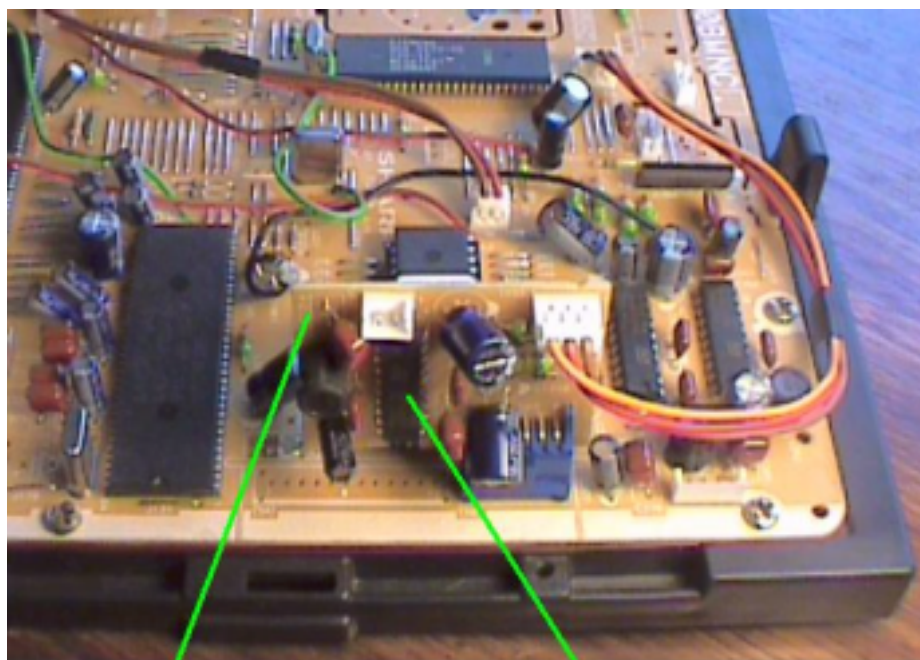
Reference JR29042003-8

Revision 2

White – Carry out as required

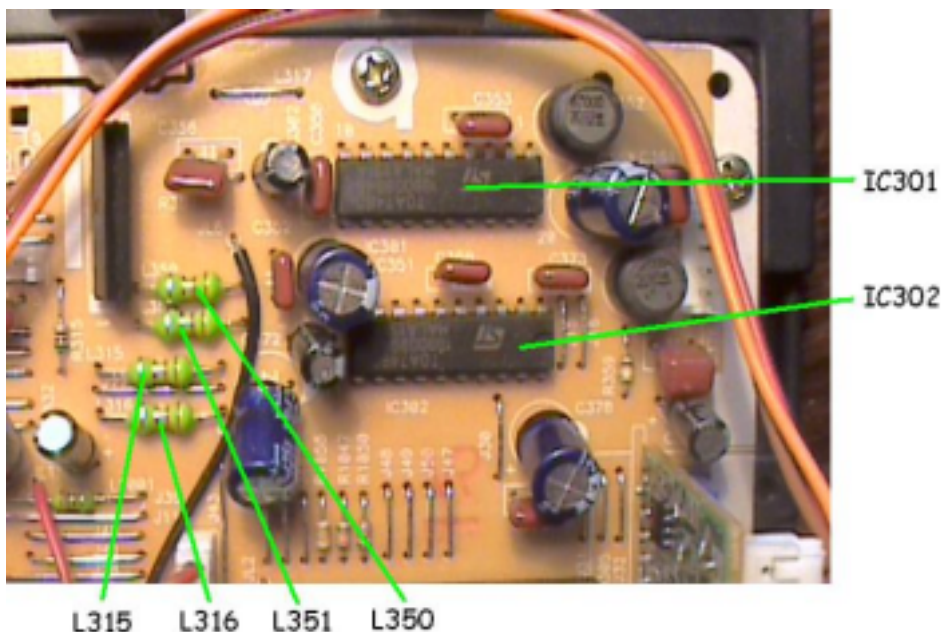
Yellow – Carry out as required and whenever the unit comes in for service

Red – Carry out on all units



Centre speaker PWB IC1302 - IC1300 is an SMD device mounted on the print side of the PWB

Location of Audio Stage components (Main PWB)



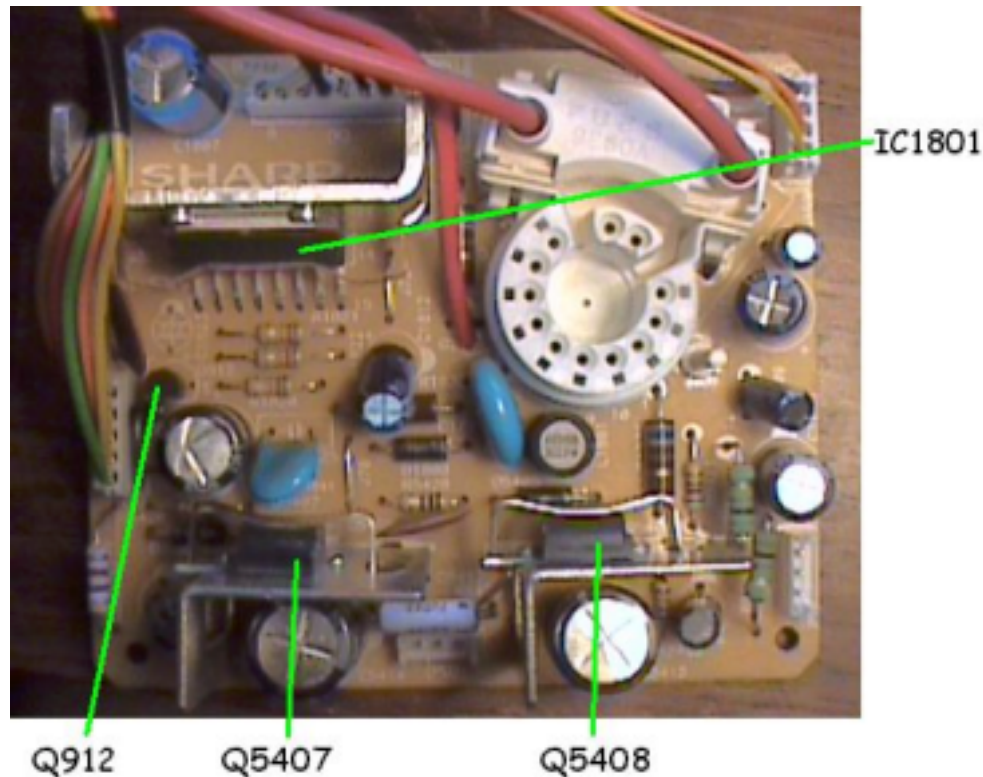
Location of Centre Speaker PWB

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Reference JR29042003-8

Revision 2

White – Carry out as required
Yellow – Carry out as required and whenever the unit comes in for service
Red – Carry out on all units



Location of Components on the CRT PWB - 66cm and 76cm versions only (the PWB fitted to the 56FW53H does not have Q5407/Q5408 fitted and is physically smaller than this example)

When the avalanche diode is fitted, only four components generally need to be replaced (D735, Q601, IC705 and C720), this is because it prevents further damage to the circuitry should the power supply be kept running. Sharp produce a kit that contains these four items - use the part number FWSEVKIT01//

If the set is operated for prolonged periods without the avalanche diode fitted, then damage will occur to other parts of the circuit. The CRT PWB suffers normally all the electrolytic capacitors have to be replaced if this is the case. The moral is, **DO NOT** run the set when high HT is present.

<u>REF NO</u>	<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>PRICE CODE</u>
---	FW Kit 01	FW SERVKIT01//	AR

NOTES:

- When replacing **any** opto coupler ensure that the soldering temperature is **below 250°C**.
- To ensure that excessive HT does not cause further problems, if not previously fitted make sure that an avalanche diode (D735) is fitted across C720 on the print side of the PWB. The cathode of the diode should be connected to the positive side of C720.
- An alternative (4pin) opto coupler may be supplied, read bulletin **CTV2002 05 02** prior to fitting

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