

## TELEVISION TECHNICAL BULLETIN

<b><u>MODELS</u></b>	<b>56FW53H</b>	<b>66FW53H</b>	<b>66FW54H</b>	<b>76FW53H</b>
	<b>76FW54H</b>	<b>59ESD7H</b>	<b>66ESD7H</b>	

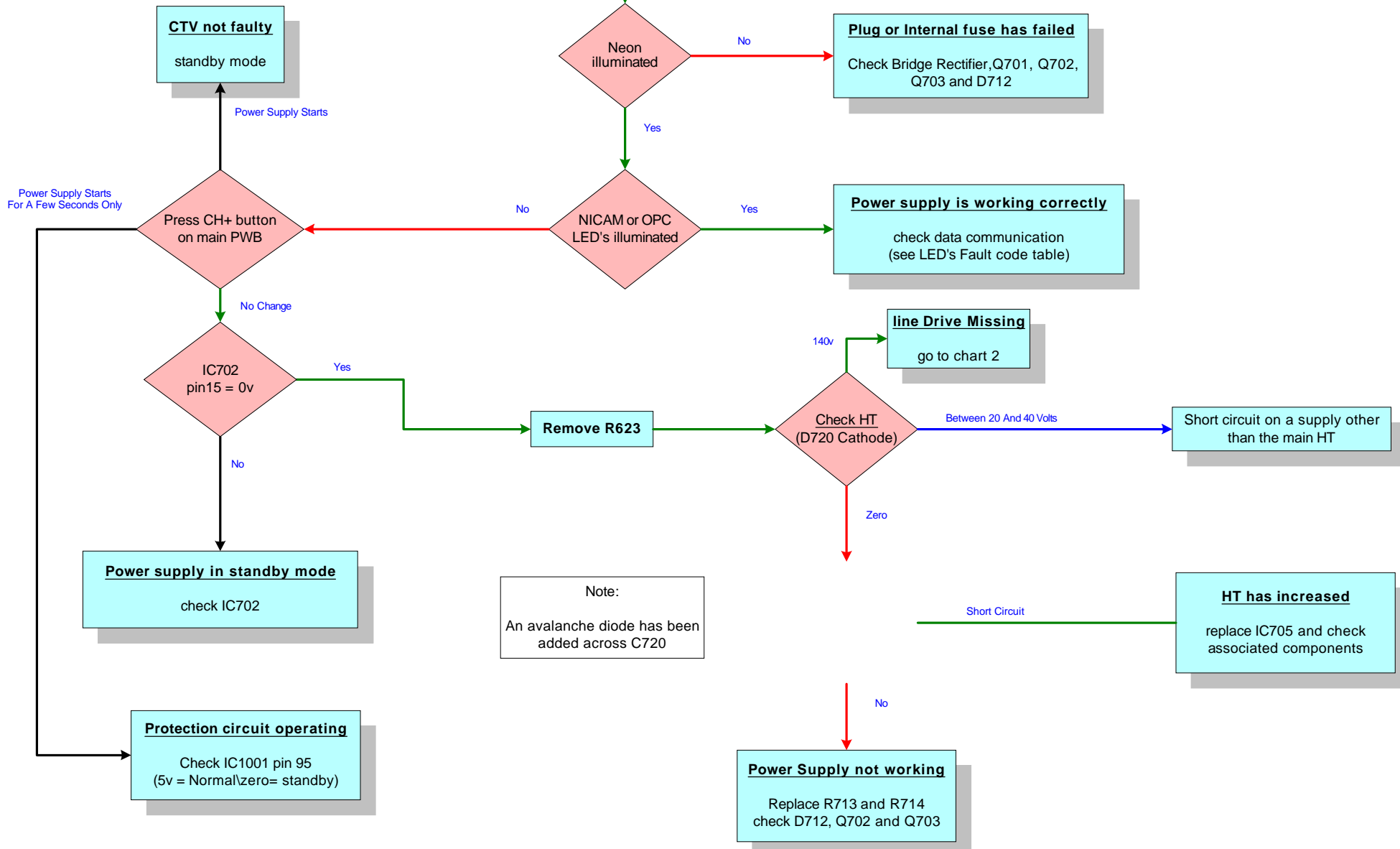
### Faults experienced on the DA100 (50Hz) Chassis

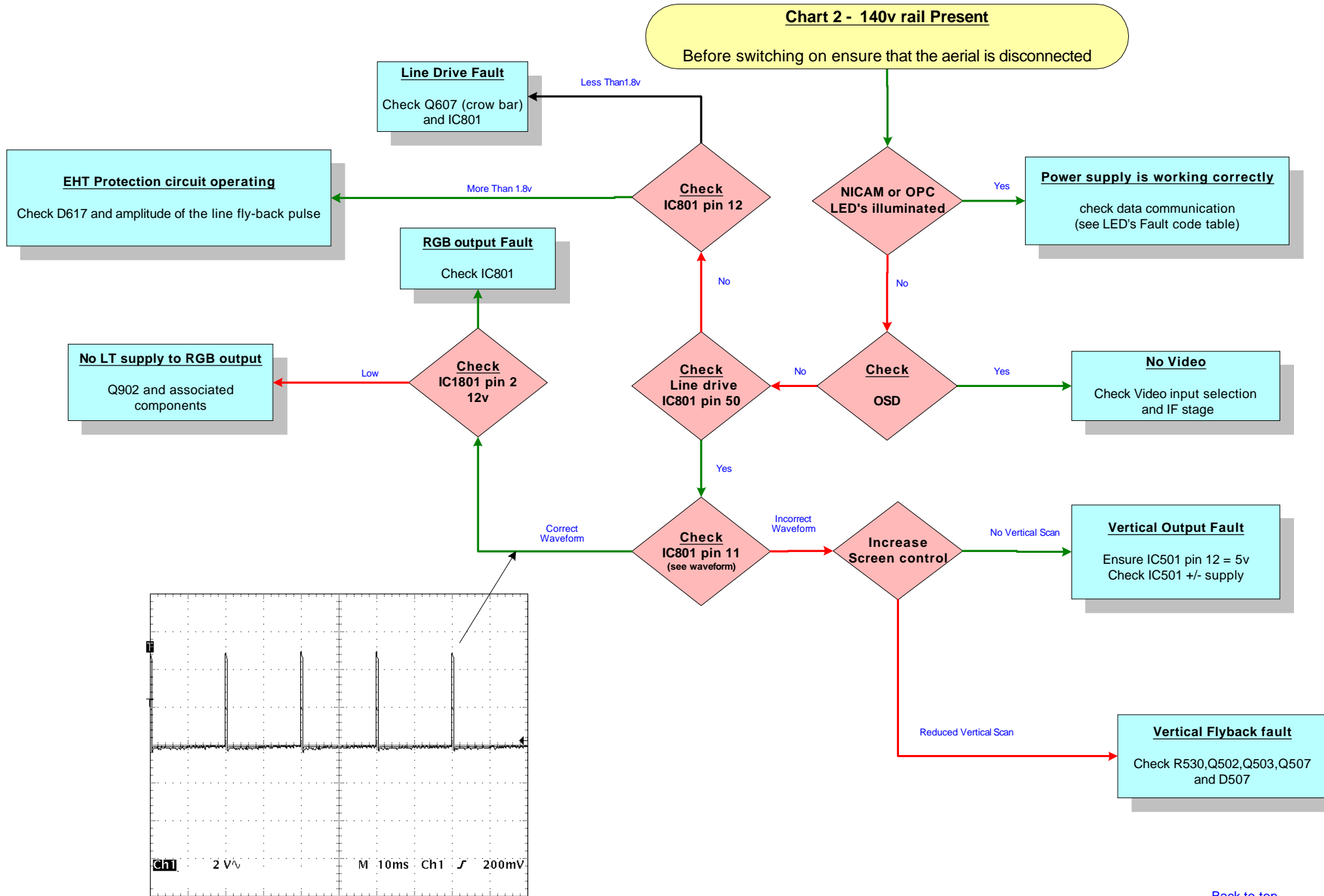
The following faults have been experienced on the DA100 (50Hz) chassis (see models listed above).

When servicing any model fitted with a FW chassis, ensure that the internal speakers are connected.

1. [Fault finding flow chart](#). (See page 2)
2. [LED fault code table](#) (See page 4)
3. [NVM associate problems](#). (See page 5)
  - RGB brightness
  - Green LED ON permanently
  - Low contrast
  - Teletext problem
4. [Set may not turn on, when it does there is a rainbow effect on the screen](#). (See page 6)
5. [Very high HT in excess of 200V](#). (See page 7)
6. [Field fold over at the bottom of the screen after about fifteen minutes](#). (See page 8)
7. [Receiver not coming out of standby or operation erratic](#). (See page 8)
8. [Receiver not out of standby - power supply inoperative](#). (See page 9)
9. [Receiver intermittently returns to standby or intermittently does not come out of standby](#). (See page 9)
10. [NVM Corruption](#). (See page 10)
11. [Set trips once picture appears](#). (Only 66FW54H & 76FW54H) (See page 11)

**Chart 1 - No 140v rail**  
 Before switching on ensure that the aerial is not connected





[Back to top](#)

## LED Fault Code Table

LED Fault	Green NICAM	Orange OPC
Main reset or EPROM	off	On
NVM's	2 Flashes/Pause	On
	or	
	On	Off
	or	
	On	On
MSP	3 Flashes/Pause	On
Video	4 Flashes/Pause	On
I2C 1 Locked	Keeps repeating the boot sequence	
Mega Text/M3 bus	On	1 Flash/Pause (1:3)
Boot Sequence	Green - On	Orange - on
	Green - On	Orange - off
	Green - Off	Orange - off
Notes	<p>Boot sequence can repeat six times before the fault code is shown</p> <p>Time taken for re-boot will vary depending on which section is faulty</p>	

[Back to top of file](#)

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**SYMPTOM** In some instances, when a RGB signal is applied to the EURO-SCART socket, the brightness varies with picture content.

**CAUSE** Incorrect black level clamping.

**ACTION** Adjust NVM data on page 0D, position 0C from 73 to 57.

[Back to top of file](#)

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**SYMPTOM** Set fails to start, green LED stays on permanently. Only one burst of activity on the NVM I<sup>2</sup>C bus.

**CAUSE** Serial data problem.

**ACTION** Remove the NVM (IC1003) and turn the set on.

If the LED gives two flashes, this means that there is no NVM data and that the processor and OTP are working correctly. This probably means that the NVM is faulty.

<u>REF NO</u>	<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>PRICE CODE</u>
IC1003	IC, NVM	RH-IX1603BMZZ	AV

[Back to top of file](#)

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**SYMPTOM** Low contrast, but when the test mode is entered, it returns to normal.

**CAUSE** NVM corrupted.

**ACTION** Adjust G2 as described on the following page.

NB. If the fault does not clear, replace the NVM.

<u>REF NO</u>	<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>PRICE CODE</u>
IC1003	NVM	RH-IX1603BMZZ	AV

[Back to top of file](#)

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**SYMPTOM** After changing the NVM (or possibly due to data corruption), the half page text appears in the wrong part of the screen - too far left or right.

**CAUSE** Corruption of NVM memory.

**ACTION** Enter the service mode and change the following NVM position to the value shown.

Page: 00  
Position: 68  
Value: 36

Note: To enter the service mode, take the following steps.

1. Turn the set on and ensure that a picture is being displayed.
2. Turn the set off using the mains switch.
3. Press the volume down and channel up buttons on the front of the set.
4. Keeping the buttons pressed, turn the set on using the mains switch.
5. Release the buttons when the service mode is displayed.

Use the channel buttons to move between functions, the volume buttons to change values and the standby button to store.

[Back to top of file](#)

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**SYMPTOM** Set may not turn on, when it does there may be a rainbow effect on the screen. Note the NICAM LED may be on.

**CAUSE** Low voltage on IC501 pin 12 (standby/mute).

**ACTION** Replace IC501.

<u>REF NO</u>	<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>PRICE CODE</u>
IC501	Amplifier	VHITDA7480/-1	AK

[Back to top of file](#)

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## TELEVISION TECHNICAL BULLETIN

**SYMPTOM** Very high HT (in excess of 200V) leading to failure of C720. Note that the set may trip in the fault condition.

**CAUSE** No power supply feed back due to the opto coupler diode, IC705, going open circuit.

**ACTION** In most cases, when the HT rises C720 fails and no other components are damaged. If this is the case, replace C720 and IC705 using the part numbers listed below.

Please see Technical Bulletin CTV2001 01 01 for guidance on fitting IC705.

Occasionally other components can fail, normally this will be the line output transistor, Q601 (BUH515 - RH-TX0144BMZZ) and IC1801 (TEA5101A - RH-IX1416BMZZ) on the CRT Base PWB.

### **IMPORTANT**

**NOTE 1** When replacing the opto coupler in the DA100 chassis, ensure that the soldering temperature is below 250°C. If the soldering temperature is too high it may result in repeat failure of the device.

**NOTE 2** After replacing any faulty components, check the continuity as follows:

1. From pin 1 of IC705 to the cathode of D725.
2. From pin 2 of IC705 to R724.
3. From pin 4 of IC705 to the base of Q703.
4. From pin 5 of IC705 to the junction of R722 and C717.

It is also advisable to check the components around the feedback opto coupler for failure.

To ensure that excessive HT does not cause further problems, 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.

<b><u>REF NO</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>PART NUMBER</u></b>	<b><u>PRICE CODE</u></b>
IC705	IC, CNY17F-2	RH-FX0110BMZZ	AD
C720	Capacitor, 100µF 200V	RC-EZ0258CEZZ	AH
D735	Diode, avalanche	RH-EX0875BMZZ	AD

[Back to top of file](#)

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**TELEVISION TECHNICAL BULLETIN**

**SYMPTOM** Field fold over at the bottom of the screen after about fifteen minutes, which gradually gets worse as the set warms up.

**CAUSE** C505 breaking down when warm.

**ACTION** Replace C505 using the part number given below.

<b><u>REF NO</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>PART NUMBER</u></b>	<b><u>PRICE CODE</u></b>
C505	SMD Capacitor, 100nF	VCKYTV1HF104Z	AA

[Back to top of file](#)

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**SYMPTOM** Receiver does not come out of standby or operates erratically.

**REASON** Dry joint on the microprocessor crystal, X1002.

**CURE** Resolder X1002.

[Back to top of file](#)

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**TELEVISION TECHNICAL BULLETIN**

**SYMPTOM** The receiver does not come out of standby - power supply inoperative.

**CAUSE** R713 and / or R714 going high or open circuit.

**ACTION** Replace R713 and R714 with 560k $\Omega$  1/2W metal film resistors.

Use the part numbers below.

<u>REF NO</u>	<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>PRICE CODE</u>
R713	Resistor 560k $\Omega$ 1/2W metal film	VRC-MA2HG564J	AA
R714	Resistor 560k $\Omega$ 1/2W metal film	VRC-MA2HG564J	AA

[Back to top of file](#)

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**SYMPTOM** Receiver intermittently returns to standby when running, or will not come out of standby intermittently.

**CAUSE** IC703 breaks down under load.

**ACTION** Replace IC703 using the part number given below.

<u>REF NO</u>	<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>PRICE CODE</u>
IC703	Opto Coupler	RH-FX0106BMZZ	AD

[Back to top of file](#)

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**SYMPTOM** NVM corruption.

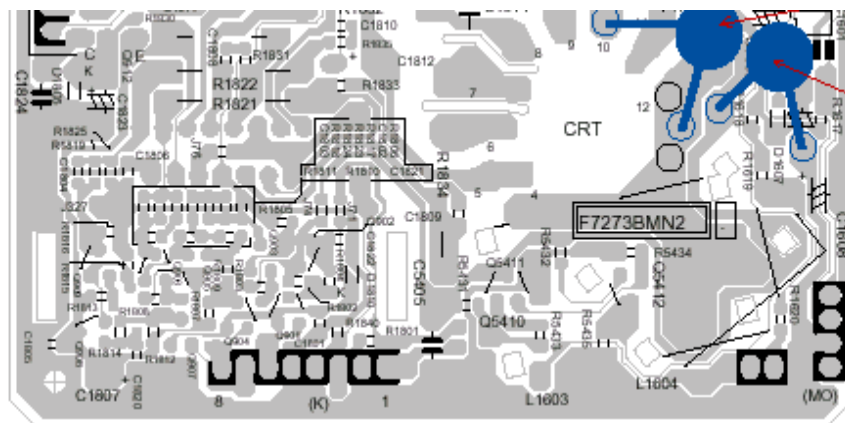
**CAUSE** Arcing can occur on the CRT base panel (PWB-B) caused by CRT discharges.

**ACTION** Add capacitors C1826 and C1827 as shown in the picture below.

Models produced after the following serial numbers already have the capacitors fitted:

66FW53H	726200
66FW54H	714595
76FW53H	713664
76FW54H	714633

<u>REF NO</u>	<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>PRICE CODE</u>
C1826	Ceramic capacitor 4.7nf 10% 500V	VCKYPA2HB472K	AB
C1827	Ceramic capacitor 10nf 20% 250V	RC-KZ0029CEZZ	AC



**CRT Socket.**

**C1826: Q5405 & Q5411 collectors track.**

[Back to top of file](#)

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**MODELS**      66FW54H                      76FW54H

**SYMPTOM**    Set will trip (re-boot) once the picture appears, if plug SA is disconnected from the Dolby PWB the set will work correctly

Note:

Sound will only appear if By-Pass mode has been select in the Audio menu.

**CAUSE**            Dolby power supply not operating

**ACTION**            Normally this is due to R1721 and R1722, in the Dolby PWB power supply circuit going high or open circuit. However, a similar fault can be experienced if any of the output IC's (IC1302, IC1303, IC1304 and IC1305) go short circuit, causing an overload of the Dolby power supply.

**NOTE**              R1721 and R1722 have been changed in value during production. Use the part number listed below to order these parts.

<b><u>REF NO</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>PART NUMBER</u></b>	<b><u>PRICE CODE</u></b>
R1721	Resistor, 560K 0.5W	VRC-MA2HG564J	AA
R1722	Resistor, 560K 0.5W	VRC-MA2HG564J	AA
IC1302	IC, TDA7480	VHITDA7480/-1	AK
IC1303	IC, TDA7480	VHITDA7480/-1	AK
IC1304	IC, TDA7480	VHITDA7480/-1	AK
IC1305	IC, TDA7481	VHITDA7481/-1	AK

[Back to top of file](#)

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