

MODELS	56FW53H	66FW53H	66FW54H	76FW53H
	76FW54H	59ESD7H	66ESD7H	66GF63H
	66GF64H	76GF64H	28HW53H	

Vertical Collapse and Distortion Problems

Most vertical faults can be traced to either software corruption or output IC failure. If the NVM corrupts, then it can cause severe vertical distortion, no drive or fold-over at the top of the screen. An NVM problem can be eliminated from the fault-finding procedure by reflashing.

If you have a severe vertical distortion problem, or a very small picture, it is possible that the mute pin (pin 12) is not +5V. At any voltage less than 2.7V, the output of the IC will be attenuated by 70dB, therefore if C511 or R509 fail, the above symptoms will be noted.

Foldover at the bottom of the screen after about fifteen minutes operation can be caused by SMD capacitor C505 (100nF). Replace it with Sharp part number VCKYTV1HF104Z.

For vertical collapse, reduced vertical scan or East / West circuits components failing (Q506 etc) change C632.

Lines at the top of the picture

Sometimes red, green and blue lines can be seen at the top of the screen. This normally means that the automatic grey-scaling lines (generated during the vertical fly-back period) are not being blanked correctly. Adjustment of the G2 setting on the horizontal output transformer will normally cure this problem. However, it is possible for this fault to be generated by mis-operation of the vertical fly-back circuit. First check that the +25V supply generated by D510/C520 is not low (below +18V), and there is no excessive ripple. If there is a problem in this area, the fly-back circuit is unable to generate enough of a pulse to send the spot back to the top of the screen. It is not unusual to find that either C520 or R530 (feed resistor) to be faulty in some way.

In the case of the 56FW53H fitted with a Thomson CRT, ensure that the NVM location F7 on page 0C is OD. This location controls the vertical blanking point and if set incorrectly can cause red, blue and green lines to flash intermittently at the top of the screen. This location can be incremented to 0E, 0F or 10 if necessary. 10 is the maximum value allowable, as any setting greater than this will cause the blanking level to become unstable. If the fault persists with a setting of 10, there is a fault elsewhere on the chassis.

Blank raster

You may experience a blank picture fault symptom that has been caused by a fault in the vertical stage. To alleviate any problems should there be a vertical collapse, i.e. a line burnt onto the CRT face, IC801 monitors the vertical fly-back pulse. If this is missing, IC801 will blank the picture by shutting down its RGB output. When fault finding this fault condition, it is advisable to check the PROT pin of IC801 (pin 11). This should have a 50Hz pulse at 5V amplitude applied to it. If there is a problem in the fly-back circuit, this pulse is not generated, or may be corrupted, and IC801 cuts off the RGB drive to the CRT base panel. Normally Q502 and/or Q503 being leaky or short circuit causes this fault. In most cases the +25V line is also low.

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Reference JR29042003-9
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

<u>REF NO</u>	<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>PRICE CODE</u>
C505	Capacitor, 100nF 50V	VCKYTV1HF104Z	AA
C511	Capacitor, 2.2 μ F 50V	VCEAGA1HW225M	AB
C520	Capacitor, 470 μ F 35V	VCEAGA1VW477M	AC
C632	Capacitor, 470 μ F, 35V	VCEAGA1EW477M	AD
D510	Diode, 1N4935	RH-DX0505BMZZ	AE
IC501	IC, TDA7480	RH-IX1786BMZZ	AL
Q502	Transistor, KSA928A	RH-TX0201BMZZ	AC
Q503	Transistor, IRFR010TM	RH-TX0172BMZZ	AE
R509	Resistor, 39k Ω 1/10W	VRS-TV1JD393J	AA
R530	Resistor, 10 Ω fusible	RR-XZ0212BMZZ	AB

Note

The vertical output IC is the same as that used in the audio stage, so substituting the IC will prove if it is faulty.

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