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

Horizontal Output Transistor Failure
If the negative supply used to turn off the horizontal output transistor is too low, then it will not turn off fully. This will result in a large voltage across the collector/emitter junction and current being drawn at the same time. The power generated will have to be dissipated by the transistor itself and therefore it will get very hot. Eventually it will fail. A cause of this is failure of C607 (low capacity or leaky), causing the negative supply to fall. Note that it is advisable to change this for a 105^{o}C device if it has not already been done.

For intermittent failure of the horizontal output transistor it is recommended that C607, D610 and D611 be replaced. Dry joints in the output stage can also cause this problem – the most common areas affected are the horizontal coil earth return circuit C613, R613 and associated circuitry and the scan coil connector itself. Sometimes C613 and/or R613 will go open circuit resulting in no horizontal scan leading to the possibility of the horizontal output transistor going short or leaky. C613 can also go faulty under load, so it is best to check by substitution. C528, C632 and C615 are also known to cause the output transistor to fail intermittently.

The opto coupler feedback IC, IC705 can cause the HT to rise slowly. This results in Q601 failing before the avalanche diode goes short circuit. This can take up to several hours to happen.

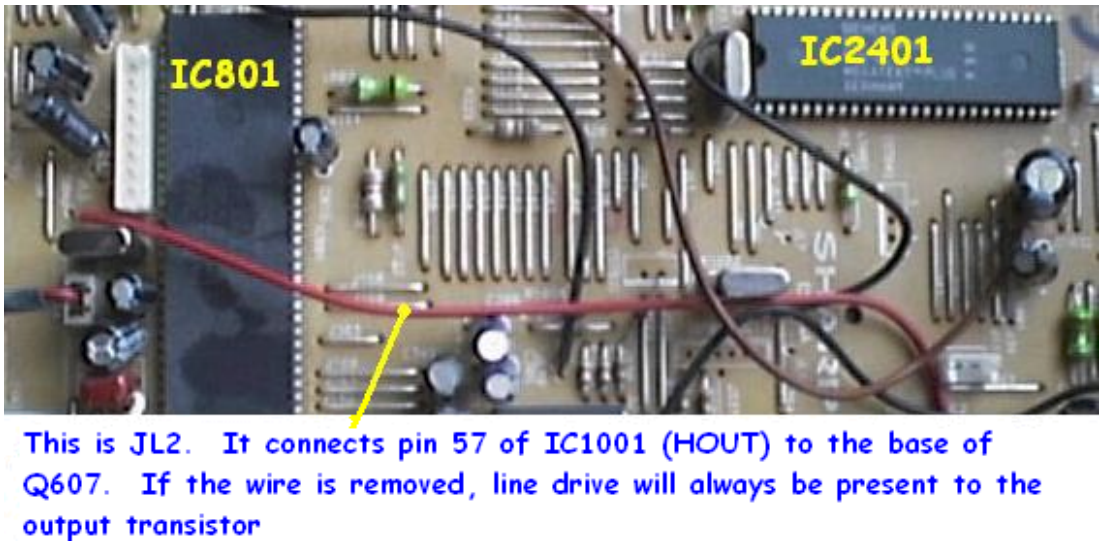
Note that the horizontal output transistor must be the correct type. Failure to use the correct transistor will result in erratic operation or premature failure of the device.

Partial or Complete Line Collapse/Intermittent Operation
Clean and resolder legs on C613. In severe cases arcing from the joint may have caused failure of R610, R613 and L603 in addition to the transistors Q601 and Q506. If Q506 runs very hot when replaced L603 must be changed.

Large Picture
If D1601 on the focus modulator PWB (76cm models only), goes leaky or short circuit, the result is an over large picture due to the EHT dropping to about 20kV.

Horizontal Drive Problems

Sometimes it will appear that there is no horizontal drive signal, even though the microprocessor has gone through the boot sequence. In this situation, it is possible to release the horizontal mute to enable the horizontal stage to start. There are a number of ways that this can be achieved, one is to short out the base/emitter junction of Q607, and the other is to temporarily isolate link JL2. If this link is removed, it is vital that it is replaced after completing the repair as failure to do so will result in premature failure of the line stage.



Location of Link Wire JL2

REF NO	DESCRIPTION	PART NUMBER	PRICE CODE
C528	Capacitor 10µF 63V	VCEAGA1JW106M	AA
C607	Capacitor, 330µF, 10V	VCEAGAIAW337M	AB
C613	Capacitor, 560nF 250V	RC-FZ6564BMNJ	AF
C615	Capacitor, 470µF 25V	VCEAGA1EW477M	AB
C632	Capacitor, 470µF 25V	VCEAGA1EW477M	AB
D1601	Zener Diode, BZX79C33V	RH-EX0427BMZZ	AA
IC705	IC, MOC8106SR2V-M	RH-IX0106BMZZ	AD
L603	Coil	RCILP0286BMZZ	AG
Q506	Transistor E/W	RH-TX0151BMZZ	AD
Q601	Transistor Line o/p	RH-TX0144BMZZ	AK
R610	Safety Resistor	RR-XZ0200BMZZ	AB
R613	Resistor, 3.3kΩ 3W	VRS-LU3LB332J	AB