

Williams Systems 3 - 11c High Voltage Parts Kit

Part Number	Description	Reference Number
MJE15030	Transistor, NPN (See notes for replacing SDS-201)	Q1
2N5401	Transistor, PNP (Replaces MPD52)	Q2
MJE15031	Transistor, PNP (See notes for replacing SDS-202)	Q3
2N5551	Transistor, NPN (Replaces MPD02)	Q4
1N4730A	Zener Diode, 3.9 Volt (Replaces 1N5990)	ZR1, ZR3
1N4763A	Zener Diode, 91 Volt (Replaces 1N4764)	ZR2, ZR4
1N4004	Rectifier, 400V, 1A	D3, D4
RMOS2-39K	Resistor, 39K, 2 Watt (Replaces 39K, ½ or 1 Watt)	R1, R4
RMOS1-1.2K	Resistor, 1.2K, 1 Watt (Replaces 680, ½ Watt)	R2, R5
RCF1/2-330K	Resistor, 330K, ½ Watt	R3, R6

Resistor color codes:

1.2K ohm = Brown, Red, Red, Gold

39K ohm = Orange, White, Orange, Gold

Notes

There are no current replacements for the obsolete SDS-201 and SDS-202 transistors. MJE15030 and MJE15031 transistors can be used to replace these but due to different pin outs – the transistor legs **MUST** be crossed as shown in the picture below. ***This note does not apply to later System 11b and 11c boards.***



Use of 1N4763's in place of 1N4764's reduces the output voltage by 9 volts. This lowers the voltage to displays and display drivers to approximately 91 volts. Although there is a minimal reduction in display brightness, the advantage to this voltage reduction is a longer lifespan in both displays and display drivers.

To improve heat dissipation, 2 Watt resistors should be installed with slight air gap between resistor body and printed circuit board surface.

For additional information regarding the repair and rebuild of System 3 thru 11c high voltage supplies and the installation of these components, see:

<http://www.marvin3m.com/sys37/index1.htm#fuses>

And

<http://www.marvin3m.com/sys11/index3.htm#display>

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