

Revision B of the PM1 Power Multiplexer

Revision B of the PM1 incorporates several of the protective measures suggested in Tech Note 125, "Configuring and Caring for your PM1." The details of these changes are outlined below.

PM1s built or serviced after December 1, 1996 are built to Rev B standards¹.

Important: The protective measures of Revision B will not protect against large over-voltage conditions, and are not a substitute for careful setup of your system. Please read Tech Note 125 before using any PM1.

TVSs: Transient Voltage Suppressors

TVSs have been added to the inputs and outputs of all PM1 channels. The TVSs on the PM1 act as a short circuit to ground when either the input or output voltage exceeds their rated voltage.

TVSs are designed only to suppress very brief transients. If the over-voltage condition is prolonged, one or more TVSs will overheat and permanently fail.

Clamping voltage:

minimum: 14.3 volts

maximum: 15.8 volts

Self-Resetting Fuses

Each of the inputs of Revision B PM1s has been fitted with a self-resetting fuse. When the trip current is exceeded, the impedance of the fuse increases very quickly, reducing the output signal to a trickle. When the fault condition is removed, the fuse cools and returns to its normal, low-impedance state.

Trip current: 1.5 amps

Series resistance: 0.4 ohms

Implications for Normal Use

The new fuse adds a small impedance to the PM1 signal path. For a normal 8 ohm load, this increase is small and can be countered by slightly increasing the output voltage of your system to match previous calibration values.

The TVSs add a small amount of capacitance to the load, but otherwise have no effect on normal operation of the PM1. If a prolonged over-voltage condition occurs (eg. a large signal is played though the PM1), TVSs may be damaged and may no longer serve their function.

¹ In March of 1997, TDT developed a mechanical relay version of the PM1. The mechanical relays are not as sensitive to over-current and over-voltage conditions as the Revision A or B PM1s, but do not have the high-speed switching characteristics of the solid state PM1s.