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Technical Note TN20.3

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Replacing the Switch-Mode PSU on G Series Products

This document covers two important subjects:

1. The electrical changes required when fitting the currently-specified “XP” PSU to a product previously fitted with the obsolete “UMEC” type.

2. Setting the output voltage of any PSU to ensure correct operation and reliability of the product.

1. Replacing a UMEC PSU with the XP type

The PSUs are not pin compatible, so the connecting wires must be re-arranged.

The new-type PSU is available from Meridian: Stock code and description “**PA10145 - G SERIES SM PSU ASSEMBLY**”.

Old-type PSU: UMEC UPO653S-01

Yellow (12V), Red (5V), Red (5V), Black, Black (0V), Blue (-12V).

The connecting wires must be re-arranged into the order shown in the following picture.

New-type PSU: XP ECM40UT31

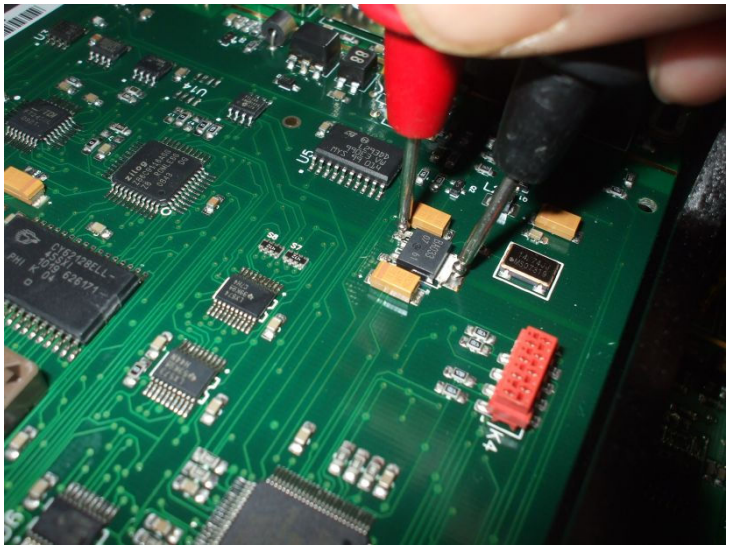
Red (5V), Red (5V), Black, Black (0V), Blue (-12V), Yellow (12V).

The output of the 5V power supply must then be set in the way described overleaf.

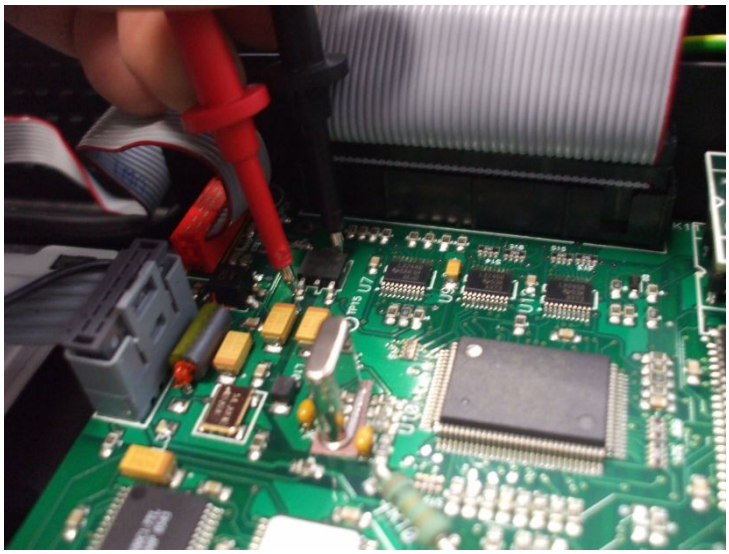
2. Adjusting the output voltage of the PSU

The output of the G series PSU is factory set at approximately 5 Volts. However, it is important that the voltage measures exactly 5.0V on the PCB carrying the main processor chip. As there is a possibility of a slight drop in voltage over the path of the connection from the PSU to the main processor, the measurement must be made on the relevant board.

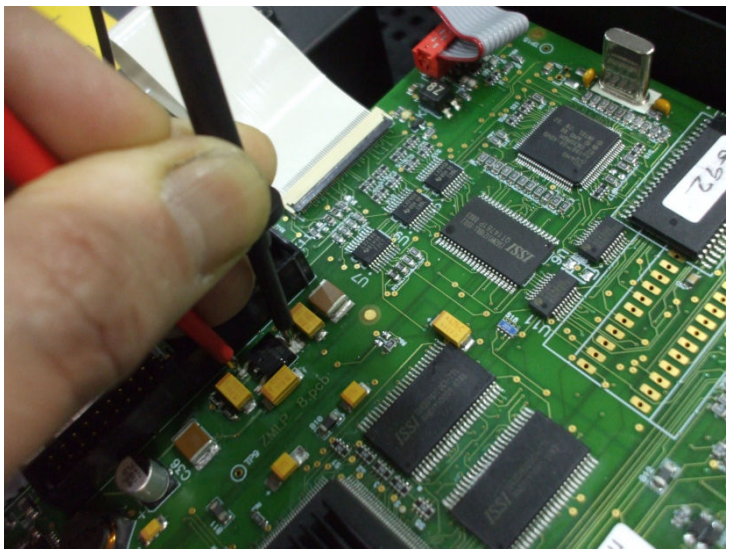
On surround controllers, the COM PCB carries the main processor chip. The voltage should be checked on the regulator as shown here:



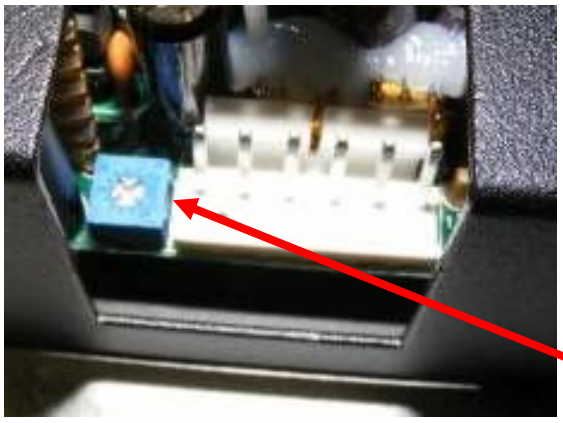
On DVD players, there have been two versions of the main processor board over the years. However, both versions carry only one regulator. This should be located to carry out the measurement. This is the location of the measurement point on the earlier version of the board:



On the more recent version of the board (designated “V9”) the measurement point is here:



While measuring the voltage, the output of the PSU should be adjusted to provide exactly 5.0V at the regulator. This is done using a small screwdriver to turn the trimmer located adjacent to the 6-way header on the PSU as shown here:



Output adjustment trimmer