

TECHNICAL NOTE

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ref 322A

Raised by: TC

Distributed to: Technical Departments Only

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SPX-1 PSU used in certain SD MIXERS **ADJUSTMENT OF +5V OUTPUT**

IMPORTANT NOTE: Because of the precise nature of this adjustment and the need to use of a properly calibrated quality meter, this procedure is intended to be carried out by distributor's qualified technicians only.

Refer to TN322 note for adjustment of the PSU's when they have been installed in the remote rack SDRR.

The mixer is normally supplied with PSU's installed. Should it be found that whilst working satisfactorily within the mixer chassis, it may be need to be slightly adjusted for reliable use.

Check the supply voltage in the mixer diagnostic page. Use the engine tab to check the +5V on the engine PCB. The console page usually uses the local IO and may not be accurate to the engine.

If possible, measure the voltage directly on the rear of the PSU chassis (normally black and red wires).

Switching off either supply (in dual supply mixers), should produce only 0.02V approx. drop in output. If either causes a bigger drop, adjust the PSU with the lower voltage to remove this variation first.

If the meter accuracy is in question simply take a note of the precise value shown and this will be used as the basis for further relative adjustment, irrespective of absolute value.

The adjustment method is as follows.

Adjustment Procedure

Remove the PSU's from the mixer chassis. Note on the top is a "Hi-Pot" test sticker. This is used to cover a hole, which allows access to the PSU +5V adjustment. Remove this sticker on both units and put to one side.



PSU as supplied

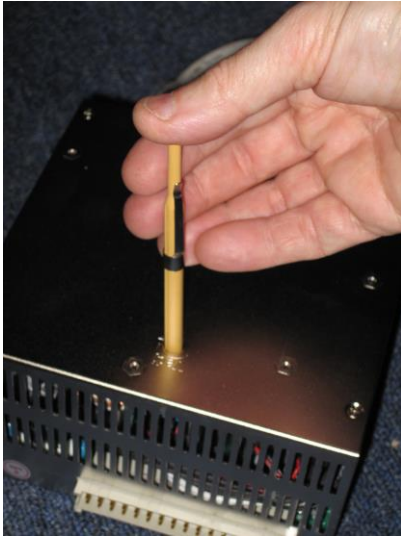


PSU with adjustment hole exposed

See how approximately 30mm below the hole is a small adjustment preset pot. This can be turned with suitable insulated small bade adjustment trim tool.

WARNING: A small terminal screwdriver will NOT fit and is likely to damage the pot or short to other parts.

Note how the hole is actually marked V adj with “ + “ shown by a clockwise arrow. This indicates the +5V is increased by turning the adjustment tool in this direction.



Flat blade trim tool in place to make adjustments to the +5V.

IMPORTANT: ¼ turn (90°) causes approximately 0.2V change in output.

At this point it must be understood the PSU cannot be adjusted with the PSU in place (the PSU chassis top is closed). Also note the PSU will not start when not fitted into the PSU chassis.

This means adjustments are made by removing the PSU, turning the adjustment, replacing the PSU and measuring the changed output voltage on the output connector. By doing this a series of times, a correctly trimmed output can be achieved by trial and error.

Adjust dual supplies (if fitted) to be identical to within 0.01 V of each other.

If 1 supply is more than 0.1V different to each, PSU with the higher voltage will prevent the other supply from starting, or cause it to stop working.

Having balanced the output voltages of the 2 PSU's, increase both so the pair read 5.25v when both are on. Now connect the mixer and with the big DC cable and confirm correct operation.

If the meter reading is not considered reliable, adjust the supplies to be equal and then increase the reading so the output is increased by 0.05V. Do this a maximum of 2 times until the mixer functions. Do NOT raise the PSU more than 0.1V from the original factory setting, until an accurate meter can be used.

If using an accurate meter, simply adjust as required, measuring directly to the PSU carrier or rear connection PCB. Do not exceed 5.4V on the rear of the PSU, typically 5.2V reading on the console diagnostics tab.

When tested and operating correctly, replace the adjustment hole labels on the PSU's and the fit the PSU retaining clamp.