



MP12 Setup guide

Follow the testing procedure in the shown order. If one test fails, find out the problem, correct it then resume.

Always unplug power between steps because it is very easy to create a shortcut when moving a DMM probe. And most of the time, shortcuts are fatal to the circuits.

Step	Description
1.	<p>Jumpers setting</p> <p>Install jumpers JMP1 and JMP2 if needed by your input transformer. Install jumper JMP5 if needed by your output transformer. Do not install JMP3 nor JMP4 at this time.</p>
2.	<p>Short circuit check</p> <p>Do a basic short circuit check with your digital multimeter (DMM) set to Ohms :</p> <ul style="list-style-type: none"> • Between Test point TP1 (GND) and TP2 (V+). • Between Test point TP1 (GND) and TP3 (V-). <p>In both cases you should get several hundred of kilo-Ohms. If it is not the case, find out and fix the short before applying power.</p>
3.	<p>Test setup</p> <p>At this point, you need an assembled and wired SKMP case, with a DIO2 board fitted. Install your MP12 in a free slot. Do not secure it yet with nuts. Connect a flat cable between the DIO2 and the MP12 board (look at the "SKMP assembly guide"). Disconnect all other micpres by removing their flat cable. Connect the PSL1 or PSL2 power supply leaving the mains plug disconnected. Make sure A1 (DOA) is not installed on your MP12 board . Make sure U1 (OP07) is not installed on your MP12 board .</p>
4.	<p>General power check</p> <p>Plug in power and check that the 3 LEDs on the power supply unit are lighting normally. If one or more LED is staying off or is lighting too low or too bright, immediately plug off power and start checking your board. Plug off power.</p>
5.	<p>Positive rail check</p> <p>Set your DMM to DC Volts on a 30 V scale and connect it between TP1 (GND) and TP2 (V+). Use test hooks and be careful not to create shortcuts. Plug in power. Check that you get a positive voltage and that it changes when you turn P5. Plug off power.</p>
6.	<p>Negative rail check</p> <p>Connect your DMM between TP1 (GND) and TP3 (V-). Plug in power. Check that you get a negative voltage and that it changes when you turn P6. Plug off power.</p>
7.	<p>Voltage setup without charge</p> <p>If everything is correct, you can now adjust the positive and negative voltages to values that fit your DOA. Set them 1-2 volts below the wanted value. You will adjust them to the final value in the next step, when the rails are charged by the DOA. SK25 : ±18V SK47, SK99 : ±24V Other DOA's : check in the manufacturer datasheet Plug off power.</p>



Step		Description
8.	Voltage setup with charge	Insert the DOA. Plug in power. Check both voltages again and adjust to the final value. Plug off power.
9.	DOA output voltage check	Set your DMM to DC volts and connect it between TP1 (GND) and TP4 (AI output). TP4 is taken on JPM4. Plug in power and check that the voltage is near 0 volt. A SK47 should give you between -0.5V and -1V. Low offset DOA's should give no more than a few tens of millivolts. Plug off power.
10.	DOA output voltage nulling (NOT for SK47)	<p>Warning : This setting must not be done if you are using a DOA with a large output offset like SK47.</p> Connect your DMM as above and set it to the lowest voltage scale. Turn P3 counter-clockwise all the way down (25 turns). Insert a jumper on the JPM3 + side. Plug in power. Turn P3 clockwise and check if the output offset moves towards 0V. If it moves in the wrong direction, change the jumper to the – side. Adjust the output voltage as close to 0V as possible. Repeat after 15 minutes warm up. You should be able to go below 1 mV. Plug off power.
11.	Servo check	<p>Warning : This setting must not be done if you are using a DOA with a large output offset like SK47.</p> The servo action is complementary to the potentiometer nulling described in the previous step. Keep your DMM as above and insert U1 (OP07) in its socket. Warning : The slotted side should be pointing down. Power on and watch the DC output voltage. After a few minutes of warm up it should settle well below 1 mV, usually around ± 0.2 mV. Plug off power. If you do not want to use the servo, simply remove U1.
12.	AC/DC coupling	Now that your DC output is under 1 mV, you can remove the coupling capacitor if you wish. Simply insert JMP4. <p>Warning : This must not be done if you are using a DOA with a large output offset like SK47.</p>



Step		Description
13.	Sound check	<p>Connect the input and output XLR wires to the board terminals.</p> <p>Plug in a dynamic microphone to the input XLR.</p> <p>Connect the output to your monitoring system. It can be a headphone amplifier or it can go through one of your ADC inputs if you run a software studio.</p> <p>Set gain switch to Mid, gain knob to minimum, output pad potentiometer to maximum, 48V to Off.</p> <p>Plug in power.</p> <p>Slowly turning up the gain knob, check that your micpre is working. Check the 3 switch gain positions, the phase switch, the pad knob.</p> <p>Make the same test with a static microphone, with the 48V switch set to On.</p> <p>Plug off power.</p> <p>Set the 48V switch to Off.</p>
14.	DI check	<p>Plug the board's flat cable to connector CN1 or CN2 on the DIO2 board if it is not the case yet.</p> <p>Insert an instrument jack into the corresponding front panel jack socket.</p> <p>Plug in power.</p> <p>You should hear your instrument when playing.</p> <p>Plug off power.</p>
15.	Clip LED setup	<p>Warning : Do not forget to set your 48V phantom switch to OFF.</p> <p>Connect a 1 KHz sine source to the input.</p> <p>You can use your multitrack software loop playing a sine tone like the one that is downloadable from the "Downloads & Useful links" section on our website. Route the signal to a DAC and connect your DMM to the DAC output. Adjust the software output level in order to get around 0.5VAC. Connect this output your micpre input.</p> <p>Set the gain switch to Pad (low position), the gain knob to minimum, the Pad knob to minimum.</p> <p>the micpre output is still connected to your monitoring system.</p> <p>Plug in power.</p> <p>The important point here is that we are going to bring the micpre to clipping but we don't want to clip in the monitoring chain. Check with your Vu meters and adjust with the Pad knob.</p> <p>Listen to the sine tone and slowly increase the gain until you hear the clipping. It is pretty easy to hear when the new harmonics break into the sound. If you cannot get clipping on this gain switch position, move to the MID position.</p> <p>Back off slightly until you hear no clipping at all.</p> <p>Lower by 3dB the signal level in the software. You can choose a different margin like 4.5 or 6dB.</p> <p>Adjust trimmer P4 to the point where the red LED just starts lighting up while turning clockwise.</p> <p>Plug off power.</p>
16.	Congratulations	<p>You're done !</p>