

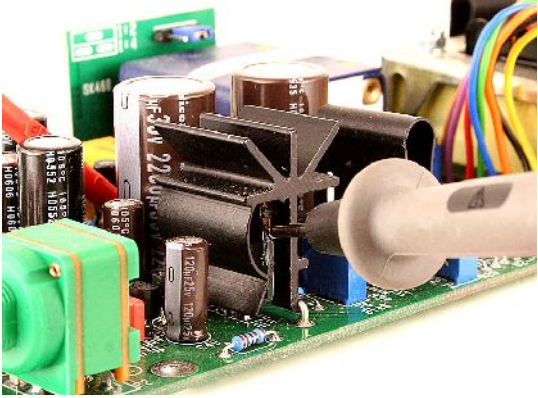


MP73 Setup guide

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>Short circuit check</p> <p>Do a basic short circuit check with your digital multimeter (DMM) set to Ohms between Test point TP4 (GND) and TP3 (V+).</p> <p>You should get several hundred of kilo-Ohms. If it is not the case, find out and fix the short before applying power.</p>
2.	<p>Test setup</p> <p>At this point, you need an assembled and wired SKMP case, with a DIO2 board fitted. Install your MP73 in a free slot. Do not secure it yet with nuts. Connect a flat cable between the DIO2 and the MP73 board (look at the "SKMP assembly guide").</p> <p>Disconnect all other micpre's by removing their flat cable.</p> <p>Connect the power supply leaving the mains plug disconnected.</p> <p>Turn trimmer P7 anti-clockwise all the way down (25 turns).</p> <p>Turn trimmer P6 clockwise all the way up (25 turns).</p> <p>Warning : Be very careful when pre-positioning P6 and P7. Doing it the wrong way round will surely smoke several components !</p>
3.	<p>General power check</p> <p>Plug in power and check that the 3 LEDs on the PSL1 or PSL2 are lighting normally. If one LED is staying off or is lighting too low or too bright, immediately plug off power and start checking your board.</p> <p>Plug off power.</p>
4.	<p>Voltage setup</p> <p>Set your DMM to DC Volts on a 30 V scale and connect it between TP4 (GND) and TP3 (V+). Use test hooks and be careful not to create shortcuts.</p> <p>Plug in power. Check that you get a positive voltage and that it changes when you turn P7. Adjust to 24V. Plug off power.</p> <p>Warning : Do not confuse P6 (Bias) and P7 (V+ adjust).</p>

Step		Description
5.	Bias adjust	<p>With P6, we are going to adjust the biasing of Q10 in order to flow a 70mA direct current in the output transformer primary. To do this, we are going to measure the voltage between the +24V point and the collector of Q10.</p> <p>Set your DMM to DC volts.</p> <p>Place the (+) probe of your DMM on the test pin TP3 (V+). Place the (-) probe of your DMM on the collector of Q10, that is the metal plate at the back of the transistor case. You will have to reach it underneath the heatsink which is insulated.</p> <p>Adjust P6 until you read 1.80 Volts on the DMM.</p> <p>Warning : Do not confuse P6 (Bias) and P7 (V+ adjust).</p> <p>Warning : If you do not see any voltage change when turning P6, stop adjusting and check your board. You probably have a wiring error.</p> <p>Warning : Turning P6 anti-clockwise increases the current in Q10. If you turn it too far, the current will reach a value that WILL smoke RG5 !</p> 
6.	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", "Level In" knob to minimum, 48V to Off and "Level Out" to maximum.</p> <p>Plug in power.</p> <p>Slowly turning up "Level In" knob, check that your micpre is working. Check the 3 positions of the gain switch, the Phase switches and the "Level Out" pot.</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>
7.	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>



Step	Description
8.	<p>Clip LED setup</p> <p>For this setting you will need to use the knobs and front panel marking so finish assembling the board as detailed in the “SKMP Assembly Guide”.</p> <p>Connect a 0.5VAC, 1KHz 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. Your DMM should be set to AC Volts. Adjust the software output level in order to get around 0.5VAC. Connect this output your micpre input.</p> <p>Set the “Level In” knob to minimum, Gain switch to “Low” and “Level out” to maximum . the micpre output is still connected to your monitoring system.</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. If the micpre output signal is too hot for your monitoring input, you will have to build a pad, look at the next step.</p> <p>There are 3 trimmer potentiometers to adjust , corresponding to the 3 amplifier stages. Start by turning P3, P4 and P5 anti-clockwise all the way down (25 turns).</p> <p>Plug in power.</p> <p>Stage 3</p> <p>Set the “Level In” knob to minimum, Gain switch to “Low” and “Level out” to maximum .</p> <p>Slowly increase the “Level In” knob and listen to the sine tone until you just hear the clipping coming in. It is quite easy to hear when the new harmonics break into the sound.</p> <p>Back off slightly until you hear no clipping at all.</p> <p>Lower by 3dB the DAC signal in the software. You can choose a different value like 4.5 or 6dB if you prefer a greater margin.</p> <p>Adjust trimmer P5 to the point where the red LED just starts lighting up while turning clockwise.</p> <p>Stage 2</p> <p>Set the “Level out” knob to 1 O'clock. Gain switch to “Mid”.</p> <p>Slowly increase the “Level In” knob and listen to the sine tone until you just hear the clipping coming in. Back off slightly until you hear no clipping at all.</p> <p>Lower by 3dB the DAC signal in the software.</p> <p>Adjust trimmer P4 to the point where the red LED just starts lighting up while turning clockwise.</p> <p>Stage 1</p> <p>Keep “Level out” knob to 1 O'clock and set “Level in” to 11 O'clock. Set the DAC output level to about 50mVAC by adjusting the level in the software . Set the gain switch to “Hi gain”.</p> <p>Slowly increase the level in the software and listen to the sine tone until you just hear the clipping coming in. Back off slightly until you hear no clipping at all.</p> <p>Lower again by 3dB the signal in the software.</p> <p>Adjust trimmer P3 to the point where the red LED just starts lighting up while turning clockwise.</p> <p>Plug off power.</p>



Step		Description
9.	Output pad	<p>This is needed if your monitoring chain clips before the micpre.</p> <p>Use one female and one male XLR plugs and wire 2 resistors as shown.</p> <p>Insert the pad between the micpre output and your monitoring system.</p> <p>Go back to step 8.</p> <div data-bbox="954 302 1528 698"><p>female XLR 2K2 male XLR</p><p>2 220 2</p><p>3 3</p><p>1 1</p></div>
10.	Congratulations	You did it !