



CP4500 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 short circuit when moving a DMM probe. And most of the time, shortcuts are fatal to the circuits.

Step	Description
	<p>The setup is done in 2 steps. First we will setup the channel 1 of the compressor (PCB-A) then in the second step, we will setup the channel 2 (PCB-B).</p> <p>If you own an XT500 connector extension, you can use it for the channel 1 setup.</p> <p>If you own two XT500 connector extensions, you can use them for both channels setup.</p>
1.	<p>Before setup</p> <p>Remove CP4500 cover and the top PCB (B), leaving only PCB-C (front panel PCB) and PCB-A in place.</p> <p>Put the jumper JMP1 in place.</p>
2.	<p>Board installation (without XT500)</p> <p>Remove all other modules from your 500 rack or Lunchbox and insert the CP4500 into the leftmost slot.</p>
3.	<p>Board installation (with XT500)</p> <p>Connect the lower PCB (PCB-A) to your XT500.</p>
4.	<p>Initial settings</p> <p>Set RATIO to 10, Set ATTACK to 0.1 mS, Set RELEASE to 1.2 S, Set THRESHOLD to +15, Set MAKEUP to 0, Set MIX to 100%</p> <p>Set all the push switches in the up position.</p>
5.	<p>Power voltages check</p> <p>Set your DMM to DC Volts on a 20 V scale. Connect the black probe to test point 0V.</p> <p>Power up the lunchbox.</p> <p>Check that the meter lights up.</p> <p>Connect the red probe to test point V+. Check that you get a value between +15 and +16 Volts.</p> <p>Connect the red probe to test point V-. Check that you get a value between -15 and -16 Volts.</p> <p>Connect the red probe to test point +12V. Check that you get a value between +11.5 and +12.5 Volts.</p> <p>Connect the red probe to test point -12V. Check that you get a value between -11.5 and -12.5 Volts.</p> <p>Press the IN switch and check that the front panel LED lights up.</p>



Step		Description
6.	Input signal	<p>Connect a 1 KHz sine source to the input.</p> <p>You can use your multitrack software (DAW) to play a sine tone like the one that is downloadable from the "Support/Downloads & Useful links" section on our website.</p> <p>Connect your DMM to the CP4500 output, between pin 2 and pin 3 of the XLR. The DMM is set to AC Voltage.</p> <p>Release the IN switch to turn off the CP4500.</p> <p>Adjust the signal amplitude from the DAW in order to read 2.0 VAC on the DMM.</p> <p>Depress the IN switch to turn the compressor on.</p> <p>Check that turning the THRESHOLD potentiometer counter clockwise reduces the output level.</p> <p>Check that turning the MAKEUP potentiometer clockwise increases the output level.</p> <p>Restore the initial potentiometers position (step 4).</p>
7.	Gain trim	<p>Adjust trimmer T1 in order to get absolutely no output level change when switching on and off with the IN switch.</p>
8.	Meter adjust	<p>Press the IN switch to power on.</p> <p>Turn the THRESHOLD potentiometer counter clockwise until the output level drops to 0.5VAC.</p> <p>Adjust trimmer T4 in order to read 12 dB attenuation on the meter.</p>
9.	Distortion setup	<p>This setting is only done if your CP4500 uses the 2181 VCA's (SMD or SIP).</p> <p>You need a tone burst generator: a loop of 250ms of 1 kHz sine followed by 250ms of silence.</p> <p>You can use your multitrack software (DAW) to loop a bursting sine tone like burst-1 khz.wav which is downloadable from the "Support/Downloads & Useful links" section on our website.</p> <p>You can also use an app like Tone: http://www.tolvan.com/index.php?page=/tone/tone.php</p> <p>Connect the CP4500 output to your monitoring system.</p> <p>Set the CP4500 as follow:</p> <p style="padding-left: 40px;">RATIO to 10, ATTACK to 0.1 mS, RELEASE to 0.05 S, THRESHOLD to -15, MAKEUP to +20, MIX to 100%</p> <p>The meter needle will start jumping like mad.</p> <p>Remove the jumper JMP1 and listen to the audio output. You should hear the thumps of the sidechain feedthrough at 2Hz. Increase the monitor gain if not loud enough.</p> <p>Adjust the trimmer T5 (DIST) for the lowest sound.</p> <p>The lowest feedthrough corresponds to the minimum distortion.</p> <p>After setting up, put the jumper back on JMP1. It must remain connected in normal use.</p>



Step		Description
10.	Channel 2 setup	<p>Please refer to the assembly guide to install the second channel board.</p> <p>If you don't own a second XT500, install the CP4500 inside a lunchbox. Remove all other modules from your lunchbox and insert the compressor into the leftmost slots.</p> <p>It is recommended to use a special trimmer tool with a recessed blade that won't slip from the trimmer pot screw.</p> <p>Connect the 1 KHz sine source to the channel 2 input XLR and DMM to the corresponding output.</p> <p>Restore the potentiometers to their initial position (step 4).</p> <p>Put the jumper JMP2 in place.</p>
11.	Gain trim	<p>Adjust trimmer T2 in order to get absolutely no output level change when switching the compressor on and off with the IN switch.</p>
12.	Balance trim	<p>Reconnect the 1 KHz-2VAC sine source to the channel 1 input and DMM to the corresponding output.</p> <p>If necessary you can readjust the trimmer T1 on channel 1 through the hole in channel 2 PCB because the insertion of the channel 2 PCB may slightly offset the level of channel 1.</p> <p>Press the IN switch to power on.</p> <p>Adjust the THRESHOLD potentiometer in order to get a 10 dB attenuation on the meter.</p> <p>Measure the output voltage of the channel 1 output and remember it.</p> <p>Reconnect the 1 KHz-2VAC sine source to the channel 2 input and DMM to the corresponding output. Be careful not to touch any front panel potentiometer.</p> <p>Adjust trimmer T3 in order to get exactly the same voltage as you got on channel 1.</p>
13	Distortion setup	<p>This setting is only done if your CP4500 uses the 2181 VCA's (SMD or SIP).</p> <p>Connect the tone burst source to the channel 2 input.</p> <p>Connect the channel 2 output to your monitoring system.</p> <p>Set the CP4500 as in step 9.</p> <p>Remove the jumper JMP2 and adjust the trimmer T6 (DIST) for the lowest feedthrough sound.</p> <p>After setting up, put the jumper back on JMP2. It must remain connected in normal use.</p>
14.	General check	<p>Send a musical program to the inputs and verify that all the front panel controls work as expected.</p>
15.	Congratulations!	<p>You're done!</p>