

The steps below describe how to calibrate soft limit on the AD-8000 using the oscillator on a console or using test bench gear.

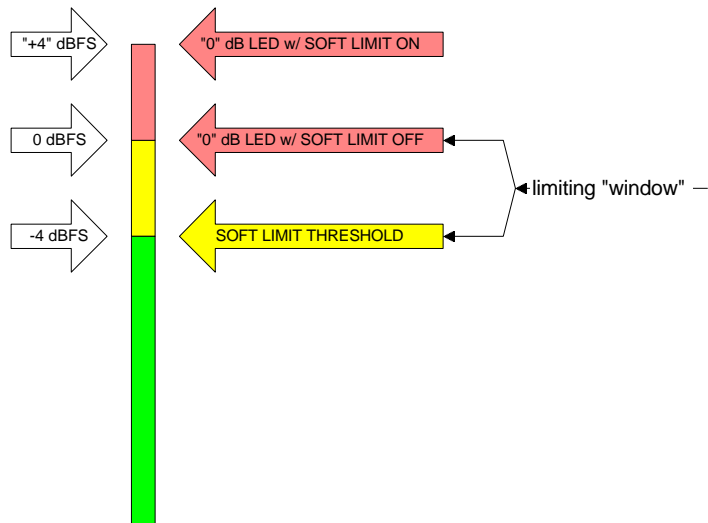
Soft Limit calibration procedure using a recording console

1. Calibrate the AD-8000 inputs to your optimum headroom setting using an oscillator via your mix desk's stereo output, or any metered source (see AD-8000 manual for calibration instructions).
2. Patch the oscillator into a mult on your patchbay (2-channel to 4-channel parallel).
3. Patch one set of outputs from your mult into two of the analog inputs of the AD-8000.
4. From the same mult, patch the other set of outputs into a line input of your mixing desk.
5. With Soft Limit turned off, set the oscillator to 1 kHz, increase the oscillator level to where the "over" LEDs light up, then reduce the level until they just go out.
6. Making sure there is no signal processing (dynamics, EQ, effects, etc.) dialed into the mixing desk's signal path, push up the line fader until the desk's stereo output meter reads the threshold you wish to attain using the Soft Limit feature. The factory setting is -4 dBFS (i.e., 4 dB under full-scale digital), so to check that it had been set correctly you would make your stereo meter read -4 . If you wish to decrease the threshold to -6 , (2 dB more limiting, effectively 2 dB more headroom) make the meter read -6 . Alternatively, if you wish to increase the threshold to -2 , (2 dB less limiting) your meter should read -2 .
7. Turn on Soft Limit.
8. Increase the oscillator output until the desk's stereo meter reads 0 VU (don't touch the console fader at this point).
9. Remove the cover from the AD-8000 to expose the circuitry inside and find the SOFT LIMIT adjustment pots. You will find them on the analog board labeled R33-1 through R22-8 (they are eight silver cubes with white centers).
10. Now simply adjust the pots until each corresponding "over" LED lights then back off until they just go out.

Soft Limit calibration procedure using test bench gear

You will need:

- An Oscillator or tone generator capable of delivering 1 kHz up to about +20 dBu.
 - An analog-reading meter capable of reading +20 dBu (any good quality high impedance volt meter will do, but you will have to do the conversion from voltage to dB. We recommend the Fluke 8060A (found in most studios) as it is extremely accurate and will read out in decibels, which makes all of this much easier.)
 - A 3-way mult (parallel) on your patchbay – one in and three out.
1. Calibrate the AD-8000 to your specific requirements. Turn Soft Limit OFF.
 2. Mult the output of the oscillator to two inputs of the AD-8000 and to the meter. Adjust the oscillator output level until the red OVER LEDs light, then back it off until the LEDs just go out. Make a note of this level on the meter. If you have an 8060A, just hit the REL (relative) button.
 3. Increase the oscillator level by +4dB on meter (see procedure using a recording console step 5 for information about changing the threshold).
 4. Turn Soft Limit ON.
 5. Adjust the Soft Limit adjustment pots (inside the AD-8000 – see above) until the OVER LEDs just go out. Verify that you are not getting any “overs” on a DAT machine or a digital-reading meter.
 6. Return to your “normal” operating set-up.



NOTE: There is no such thing as "+4 dBFS". This means that the analog input level is 4 dB over the analog input level that translates into 0 dBFS (full scale). So, for example, if the unit is calibrated to +4 dBu = -16 dBFS, then an analog input of +20 dBu would produce a full scale input with SOFT LIMIT set to OFF. With SOFT LIMIT ON, this top level would be an analog level of +24 dBu. Thus, with SOFT LIMIT ON, the unit would produce a 0 dBFS light with an analog input of +24 dBu.