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Adding second channel to E4418A/B meters



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with E4418 meters getting cheaper by the day and the gap between E4418 and 19 still being quite big this might be of interest to someone who owns a 4418 and consider buying a 4419 but still being deterred by the price tag.

It is fairly easy to add a second channel effectively turning the unit into a 4419.

The first step is to find the extra parts , you need a input connector assy , measurement board and a shrouded header connector , if you have a unit with option 03 you already have a second input connector you can use on the back of the unit , otherwise the parts can be found on ebay either separate or you buy a 4418 with bad display or PSU as parts mule , if you own a A and buy a bad B you can also use the parts to convert the A to a B while you are at it .

The first step is to turn on the unit, go to SYSTEM /SERVICE and write down the Processor and System revision code, next open your meter and remove the measurement board and riser board, if you look at the riser you notice that holes for a second connector already exist, all you have to do is to de-solder the holes insert the shrouded header connector and solder it down then put the header back in the unit. Next you have to remove the front panel following the instructions in the service guide, you notice looking at the frame that a hole for a second input already exists, you now have to remove the frontpanel overlay by pulling it off (dont worry part can be ordered from keysight for about \$27) insert the second input connector and secure it with the snap ring the re-attach the front panel.

Now go to Keysight, download and install the FW upgrade utility for the E4418/19 series as well as the DLOAD file for the 4419, copy everything in a folder, connect a GPIB adapter or download cable as outlined in the instructions, if you are using GPIB ensure that the meter adress is set to 13 and language set to SCPI.

Turn the meter on and upload the 4419 firmware, once finished turn unit off insert the second measurement board, connect the input connectors and close up the unit, all you have to do now if you are hung up on cosmetics is to order the 4419 overlay E4419-00011 from keysight for \$27

Turn your unit on and ensure it identifies as correctly, if you changed a A then it should identify as 4419A if you changed a B it should be a 4419B, if it comes up as A instead of B than check the system and processor revision and compare it to the values you wrote down, if there is a mismatch you can use SCPI commands to change the value

thats all you need to do

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