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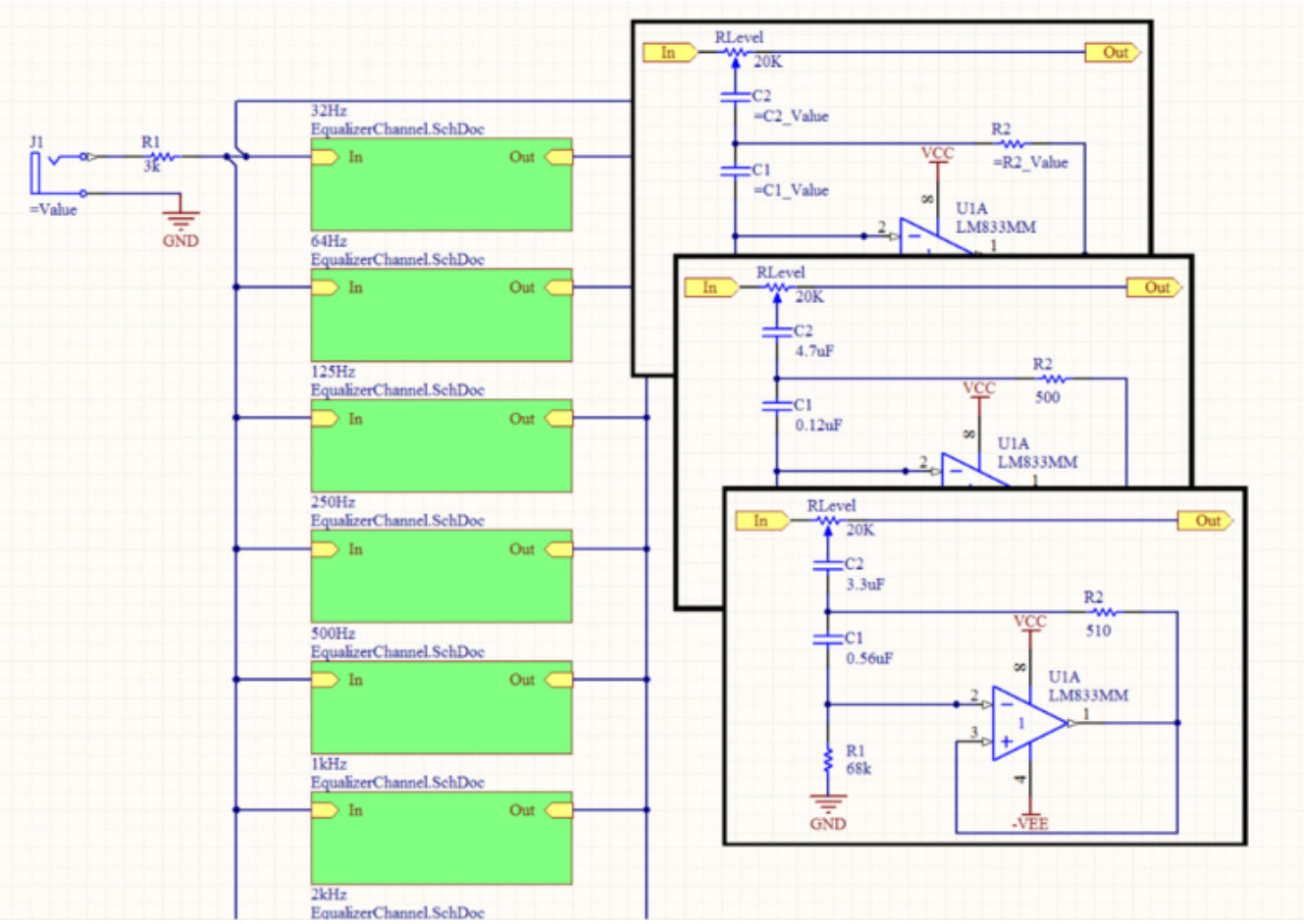
The challenge with reusing a section of design, for example pointing from a sheet symbol on your current project to your company's preferred power supply schematic, is that the values of the components are not always fixed from one design to the next. The Altium Designer feature for parametric hierarchical design solves this - it allows you to move the specification of the component values from the schematic sheet, into the sheet symbol that references that sheet. This capability also works in perfectly with multi-channel design (designs where the same section of circuitry is repeated), allowing you to have different component values in each channel.

Parametric components are defined by declaring their value as a parameter of the sheet symbol above, and then referencing that parameter on the target component.



A graphic equalizer with different capacitor and resistor values in each channel.

For example, a graphic equalizer can have the same circuit repeated many times, with the only difference between each channel being the component values. So a capacitor might take the values 0.12µF, 0.056µF, and 0.033µF in the different channels. Implementing this in Altium Designer is simple since you can specify these values in the sheet symbol referencing each channel, eliminating the need to have many similar schematics with only component values being different.

Parametric hierarchy is not limited to component values, you can parametrically reference any component parameter or any text label on the schematic sheet. A designer can refer to parameters from a symbol that is many sheets up in the hierarchy, the system will search the hierarchy until it finds the matching parameter.

Defining net connectivity, net identifiers, scoping and how it all relates to multi-sheet design is fully explained in Connectivity and Multi-Sheet Design.

> Download the reference design `\Parametric Hierarchy\AudioEqualizer.PrjPcb` for details of how to correctly configure the component parameters.