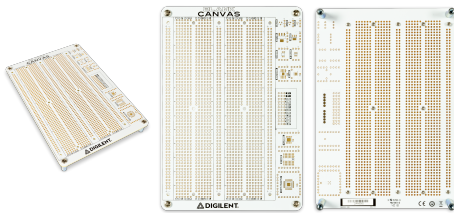
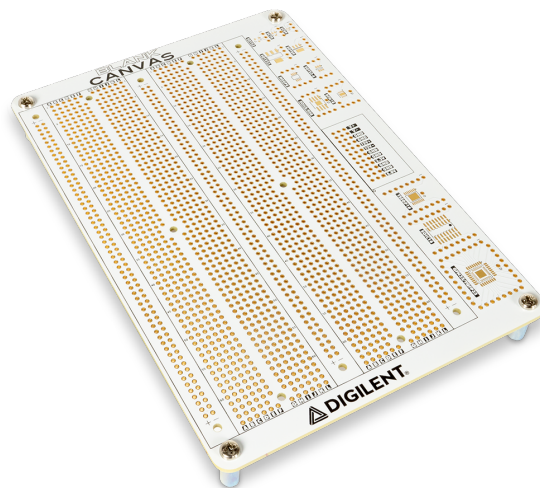


# Blank Canvas Reference Manual

The Blank Canvas provides solderable breakouts for the power supplies on the Analog Discovery Studio, and a large solderable prototyping surface. The prototyping surface is comprised of copper through-holes wired together in the same fashion as two regular sized breadboards, and 3 power rails. The power supply breakouts can be soldered on directly, or the included power supply breadboard can be soldered on to provide a breadboardable surface. The top of the board includes eleven IC breakouts for common package types. Solderless breadboards can be affixed to the prototyping surface in the event that a breadboardable area is desired.



## Mechanical Design

The Blank Canvas is designed to connect to the Analog Discovery Studio via standoffs. Magnets are located within each of the holes that the standoffs slot into in order to hold the Canvas in place. The Blank Canvas can be removed from the Analog Discovery Studio and swapped out with other canvases.

**Warning!** Do not swap out Canvases while the Analog Discovery Studio is turned on.

## Prototyping Surface

The prototyping surface of the Blank Canvas is wired like two regular-sized breadboards with three power rails. Breadboards can be attached to the surface if desired, but once attached, they cannot be removed.

The power rail rows are each labeled + or -, and are electrically connected as in a breadboard power rail. The breadboard columns are numbered, and the five or six pins making up column are electrically connected. The breadboard rows are labeled A through L.

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## IC Breakouts

The Analog Discovery Studio Blank Canvas features through-hole breakouts for a variety of common surface mount component footprints.

One breakout of each footprint in the following list are included: SC89, SC70, SOT23, SOT89, SOT23-6, MSP8, DFN10, SOIC8 SO8, TSSOP16, SOIC16, QFN32 TQFP32.

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## Power Supplies

The Analog Discovery Studios fixed and variable power supply rails are exposed via through-holes.

The two variable power pins, labeled V+ and V-, are connected to the Analog Discovery Studio's programmable power supplies. They can be programmed to voltage levels from 1 to 5V (V+) and -1 to -5V (V-) through the use of WaveForms' *Power Supplies* instrument.

Four fixed supplies are available, +12V, -12V, 5.0V, and 3.3V.

A small labeled breadboard that can be soldered to the Blank Canvas's power supply pins, if desired, comes in the box with the Blank Canvas.

Since each power supply is sourced directly from the Analog Discovery Studio, the minimum and maximum current and power available for each supply depends on the Analog Discovery Studio's specifications. See the [Analog Discovery Studio Specifications](#) for more information.