Crystalfontz
Breakout Boards with the CFA10102 – A Guide

1. Introduction

The CFA10102 generic adapter board offers multiple sizes and pitches of ZIF connectors so most Crystalfontz displays can be wired up using this breakout board. The board also includes a voltage booster, removing the need for a power supply to provide the panel or backlight voltage, meaning the board can be supplied through a single power source such as an Arduino connected to a PC. Further, the board features four jumpers for each pin to connect to the low voltage net, high voltage net, or one of two ground nets. These jumpers simplify adding any necessary 0603 components to bring up the display. Finally, this adapter board also includes multiple headers for easy signal debugging or for attaching peripheral devices.

What if the size (or pitch) of the ZIF connectors on the CFA10102 does not match the display you have? This issue can be alleviated whilst maintaining all the added functionality of the CFA10102 by using our newly released adapter boards with the CFA10102. By using the J1 female header with some dual-row male headers such as the CT254R72T-A0, any breakout board can be soldered to the board for use with your display.

2. Setup

Once a breakout board has been selected that matches the pin count and pitch of your display's ZIF tail, solder the dual row header to J1 of the CFA10102 board. The header can be broken to match your display pins count or can completely populate J1 if the extra pins are needed. Align pin 1 of the J2 header on the breakout board with pin 1 of the J1 header on the CFA10102 and insert the adapter board into the new soldered header. Pin 1 must be aligned to ensure proper fitting of the board. Once aligned, solder the pins onto the adapter board. To ensure the adapter board does not lean in either direction, first solder one pin on either side. Once soldered, hold the adapter board from the opposite side and hold the soldering iron to the previously soldered pin. Whilst the solder is hot, adjust the board from the other edge to ensure it is aligned perpendicular to the header. Once aligned, remove the soldering iron to let the solder cool, thus ensuring optimum alignment. The final result will be something like shown below. Once complete, the display can be inserted into the ZIF tail and wired to an MCU. Keep in mind the order of numbering in comparison to that of the ZIF tail.
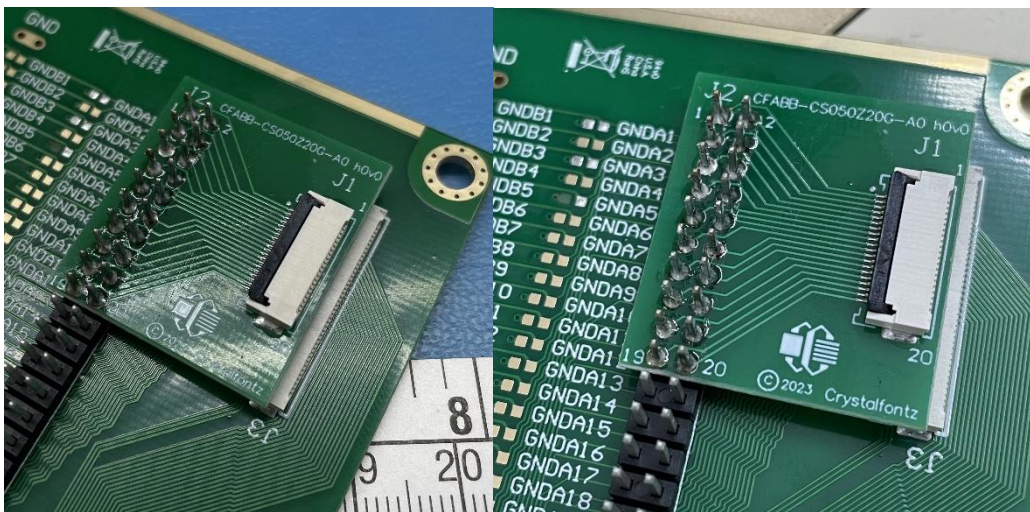
There are two limitations to using the CFA10102 in this manner. The first is that the adapter board can only support a maximum of 40 pins. The second is that, in most cases, J3 cannot be used after the board has been soldered.