

Guide to Using the MX1 Memory Expansion Card with ADAPT812

Introduction:

The Adapt812 MX1 Card combines the functions of memory expansion, and real-time clock/calendar (battery-backable) with prototyping area on a single Adapt12 form-factor card. While all memory expansion signals are available via the H2 connector on Adapt812, a few signals on the H1 connector are used by the real-time clock/calendar chip. This means that both H1 and H2 on Adapt812 need to be connected to the corresponding connectors (P1 and P2, respectively) on the MX1 card. There are two basic configurations for using the MX1 memory expansion card with Adapt-812. These are referred to as “Board Stack” and “Twin Backplane”. Which arrangement you use will be dictated by the connector configuration of your Adapt812 module. If your module has the default configuration supplied in the Adapt812 Starter Package (-RA on H1 and -M on H2), then you will use the “Twin Backplane” configuration. If your module has any combination of -M and -F connectors on the solder side, you will use the “Board Stack” configuration. (Note: it is also possible to use a single-connector configuration, such as a planar arrangement, if you do not wish to use the real-time clock chip; in that case, only H2/P2 need be interconnected.)

Assembling the Stacked Board Configuration ‘COMBO1’ (refer to Figure 1)

1) Line up H1 and H2 on Adapt812 with P1 and P2, respectively, on MX1, and simply plug the cards together. Adding a Prototyping Card to the stack: If you require more space for your circuitry, you can add an Adapt12 prototyping card to the stack. Make sure there is a connector on the component side of MX1 in the P3 location. Use a prototyping card with a suitable mating connector installed in its P3 location, on the solder side. 2) Snap two nylon spacers (0.437”) into the mounting holes adjacent to the P2 connector on MX1. Align the prototyping card connector with the P3 connector on MX1, and press them together, snapping the nylon spacers into the prototyping card mounting holes.

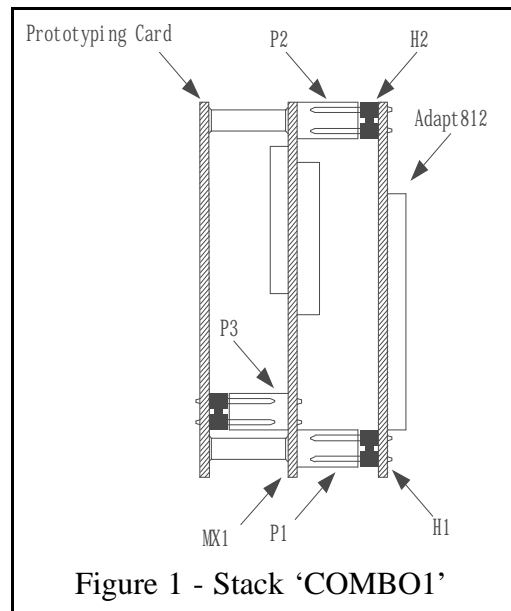


Figure 1 - Stack ‘COMBO1’

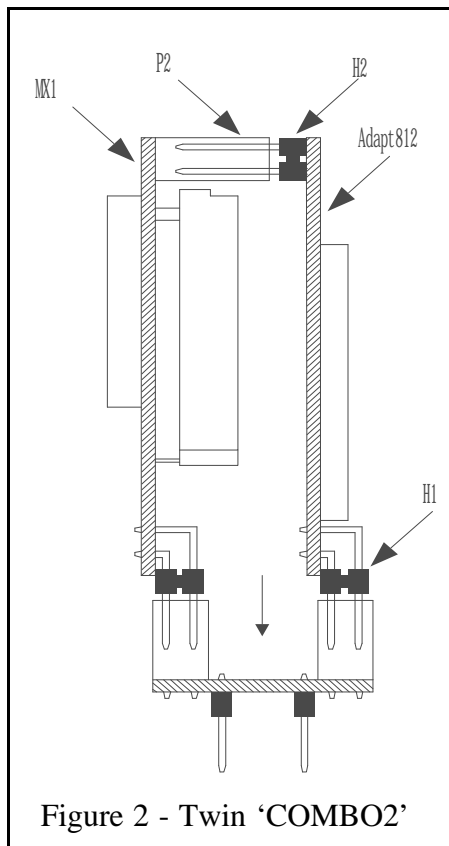


Figure 2 - Twin ‘COMBO2’

Assembling the Twin Backplane Configuration ‘COMBO2’ (refer to Figure 2)

1) Snap the half-inch nylon spacers, provided with your kit, into the four mounting holes on Adapt812. 2) Line up H2 on Adapt812 with P2 on MX1, and plug the MX1 and Adapt812 cards together, snapping the nylon spacers into the MX1 mounting holes. Don’t worry that the connectors are not be fully engaged. The exposed pins provide a convenient means of attaching test probes, if required for development purposes. 3) Plug the combination into the Adapt12 Twin Backplane Adapter, lining up pin 1 locations on both cards with the pin 1 locations on the backplane adapter. The combination can now be plugged into a solderless breadboard, where the I/O signals on H1 will be accessible for use with your interface circuitry.

The Adapt812 + MX1 combination is also available in a single-board format, called Adapt812DX. From both a circuit configuration and programming point of view, it is identical to the two-board combination you have. The only difference is a mechanical one. Once you have assembled your combination, the accompanying Adapt812DX Starter Package Manual will provide you with all the necessary information for checking operation, programming, and using your expanded memory configuration.