

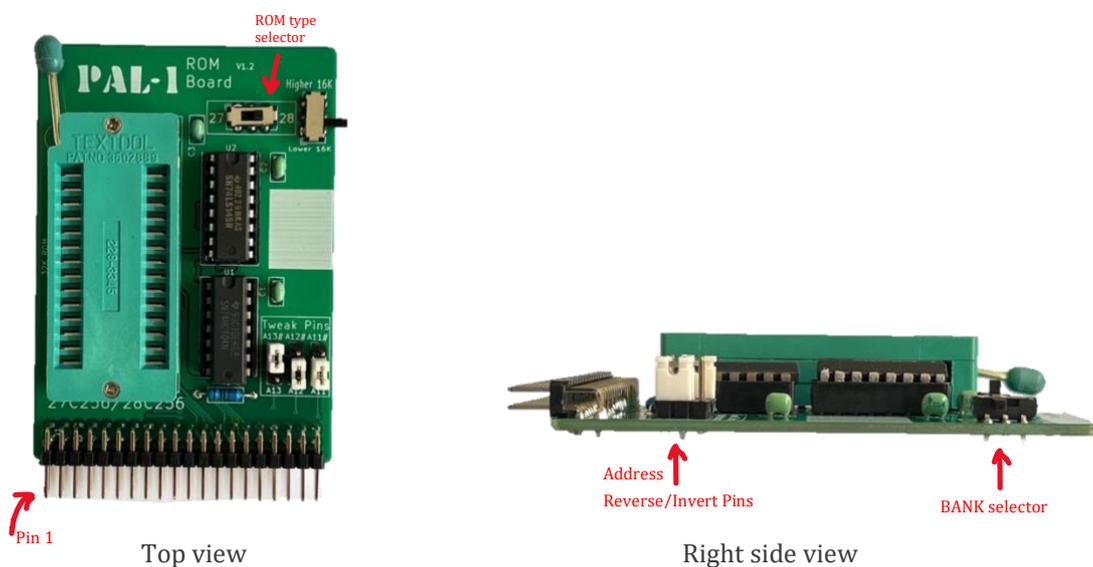
ROM EXPANSION V1.2

PAL-1

2021-10-16

MANUAL

Use BOM symbol information to assemble the ROM expansion kit, the finished expansion card looks like this:



Power off your PAL-1, connect the card to PAL-1 SBC using the motherboard card.

Check the pin 1 of the expansion card is aligned with the pin 1 of the motherboard socket or PAL-1 expansion port.

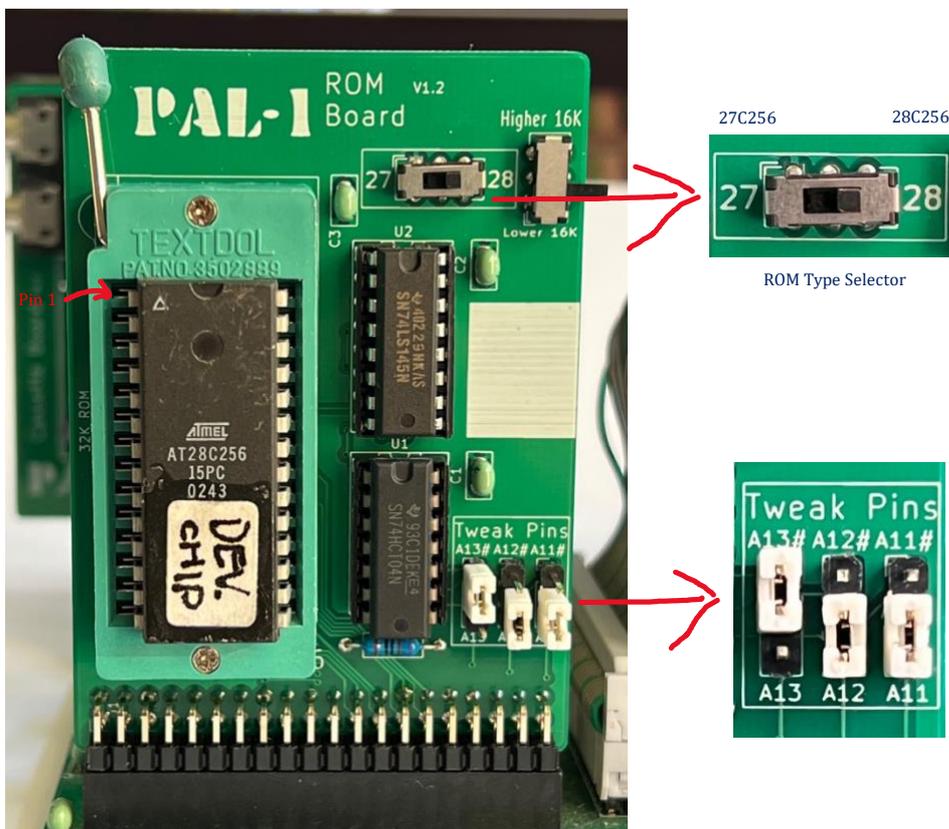
- **You need the 32K RAM Expansion card installed for using this ROM card.** (Or you can patch this card for standalone use)

The finished computer system looks like this:



Connect via mainboard

If you are using the PAL-1 ROM shipped with the expansion kit, you need to set the tweak pins to A13#, A12, A11 and ROM type like below:



These tweak pins allow you to select the direction of read/write on specific address lines: A11, A12 and A13. When you port some vintage programs to PAL-1, these pins may be helpful.

The ROM chip shipped with ROM expansion kit v1.2 is a 32KB EEPROM (28C256), burned the PAL-1 ROM programmed by Jim McClanahan. The PAL-1 ROM contains Microsoft KIM BASIC, Apple 1 Integer BASIC, FIG FORTH and VTL-02 programming languages, also contains eWoz, PBUG monitors, and a memory test program, finally the ROM loader on BANK 0 can help you get start easily.

You can access 16K space at a time. Using the bank selector switch to select which part of ROM you want to use, the lower 16K is also called BANK 0, and the higher 16K is also called BANK 1.

For more detailed information on how to use PAL-1 ROM, please refer to “Operation Guide PAL-1 EPROM Expansion Card”.

The ROM card v1.2 is compatible with 32K EPROM (27C256) and 32K EEPROM (28C256). We prefer the 28C256 chip, which is more convenient to erase. Use the ROM type selector to set the ROM chip you installed. 27 for 27C256 and the 28 for 28C256.

After changing the onboard settings, such as ROM type, bank or tweak pin, you need to reset your PAL-1 to take effect.

Interactive BOM: <http://pal.aibs.ws/ibom>