

# IDE

- Also known as PATA.
- This is a 44-pin IDE Interface.
  - 44-pin IDE devices, such as 2.5-inch IDE hard disks, can be connected directly using a cable.
  - 50-pin (JAE) IDE devices, such as laptop ATAPI CD/DVD drives, can be connected using an appropriate cable adapter.
  - CompactFlash (CF) cards can be connected using a CF-to-IDE adapter. Please see [Vampire-compatible CF adapters and cards](#).
  - SATA devices can be connected using a SATA-to-IDE adapter. There are adapters for various SATA connector types.
    - For devices with a standard SATA connector, [this adapter](#) and [this adapter](#) are known to work well.
    - For devices with an M.2 SATA connector, [this adapter](#) is known to work well.
  - SD cards can be connected using an SD-to-IDE adapter.
    - For a microSD card, [this adapter](#) is known to work well.
    - For an SD card, [this adapter](#) and [this adapter](#) are known to work well.
- The board supplies a voltage of 5V through this interface.
  - The supplied voltage is **not** sufficient for devices that require more than 5V. Those would typically be 3.5-inch hard disks and desktop CD/DVD drives (either SATA or 40-pin IDE), which require 12V. If you need to use such a device with the Vampire, then, not only do you need to find an appropriate adapter, but also you need to feed extra power into the device from an outside power source. In such a situation, setting up the necessary connections can be dangerous if done incorrectly, so we do **not** recommend attempting it. If you really must, then we recommend the help of a professional.
  - Even though most laptop CD/DVD drives require only 5V and do not need an outside power source, they still consume a lot of power. It's common to see these drives draw 4A of current. If you want to connect such a drive to the Vampire, then, in order to avoid a power deficiency, you would want to make sure that your computer's power adapter is able to output more than 4A. However, there is still a risk of electrical problems, because Vampire boards are not designed to handle 4A of current going through them. Therefore, we do **not** recommend connecting CD/DVD drives to the Vampire. If you really must, then please find a CD/DVD drive with the lowest possible power consumption, and do not connect any other peripherals that could consume a lot of power. Or you might choose to feed power into the drive from an outside power source, but we recommend the help of a professional in this case.
- This interface supports "Fast IDE", with PIO modes from 0 (slowest) to 6 (fastest).
  - Most storage devices are **certified** to support up to PIO mode 4, but many CF cards are **certified** to support up to PIO modes 5 and 6. Therefore, fast CF cards enable the maximum possible speed on this interface.
    - If you can't use a CF card, you might still be able to reach PIO modes 5 and 6 with another fast storage device, in case it **unofficially** supports those modes as a side effect of its high DMA speed.
  - If you attach multiple devices to a single IDE cable, the slowest device will dictate the maximum speed on this interface. For example, if you have a CF card that supports PIO mode 6, its speed would be hampered by a hard disk which only supports PIO mode 4.

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