XyDrive XD14
High Speed Isolated Parallel Port Breakout Board

User Manual
Rev A

Features:

- Made In USA
- DB25 Female Connector
- High Speed 1MHz Max Operating Frequency
- All Pins Brought Out
- Controls Up to Six Axes
- LED Power Indicators for Both PC and Terminal Sides
- Screw Terminals for Easy Wire-to-Board Connection
- Mini-USB Power for PC Side
- Onboard Regulator Allows 9-24V Input Voltage for Terminal Side Power
- 5 Inputs Allow Connection of Limit and Homing Switches

Description:

The XyDrive XD14 high speed parallel port breakout board is used to interface a PC to the outside world. The XD14 was designed for the CNC hobbyist but is not limited to that application. The XD14 is equipped with digital isolation technology which serves to protect the connected PC from potentially damaging current and voltage spikes. This newer technology uses radio waves to provide isolation as opposed to light waves (optical isolation) on older designs. These radio waves also offer the benefit of very high speed operation with very low input to output signal distortion in the form of pulse timing propagation delays. These negligible timing changes allow operation at high microstepping rates and clock speeds where optical boards would cease to function. Even at lower speeds and microstepping rates, the XD14 offers the benefit of low introduced distortion resulting in smoother operation and less timing uncertainty.

The XD14 provides 12 outputs and 5 inputs which is the maximum available from the PC parallel port. All inputs and outputs are terminated in a screw terminal which provides quick and easy wire connection.

As with all isolated breakout boards, the PC side and terminal side require separate power supplies to maintain isolation across the isolation plane. The terminal side of the XD14 has a +V DC input terminal. Connect this to a +9-24V DC supply. The onboard regulator converts this to a regulated +5V DC for powering the terminal side signals. This same +5V DC is also output on the +5V terminal and can be used to supply +5V DC to other boards. The green LED close to the regulator will light when the regulator is operating properly. The PC side also requires a +5V DC supply. This supply must be provided via the onboard Mini-USB connector. Many cell phone (and various other electronic equipment) chargers come with a Mini-USB connector. Any of these are suitable and can be used to power the PC side of the XD14. Connecting the Mini-USB port to a PC will also supply the required power. The green LED indicator next to the Mini-USB connector will light when voltage is applied via the connector.

WARNING: Never connect a voltage to the +5V terminal. This is an **OUTPUT** only. Connect 9-24V DC to the +V terminal.
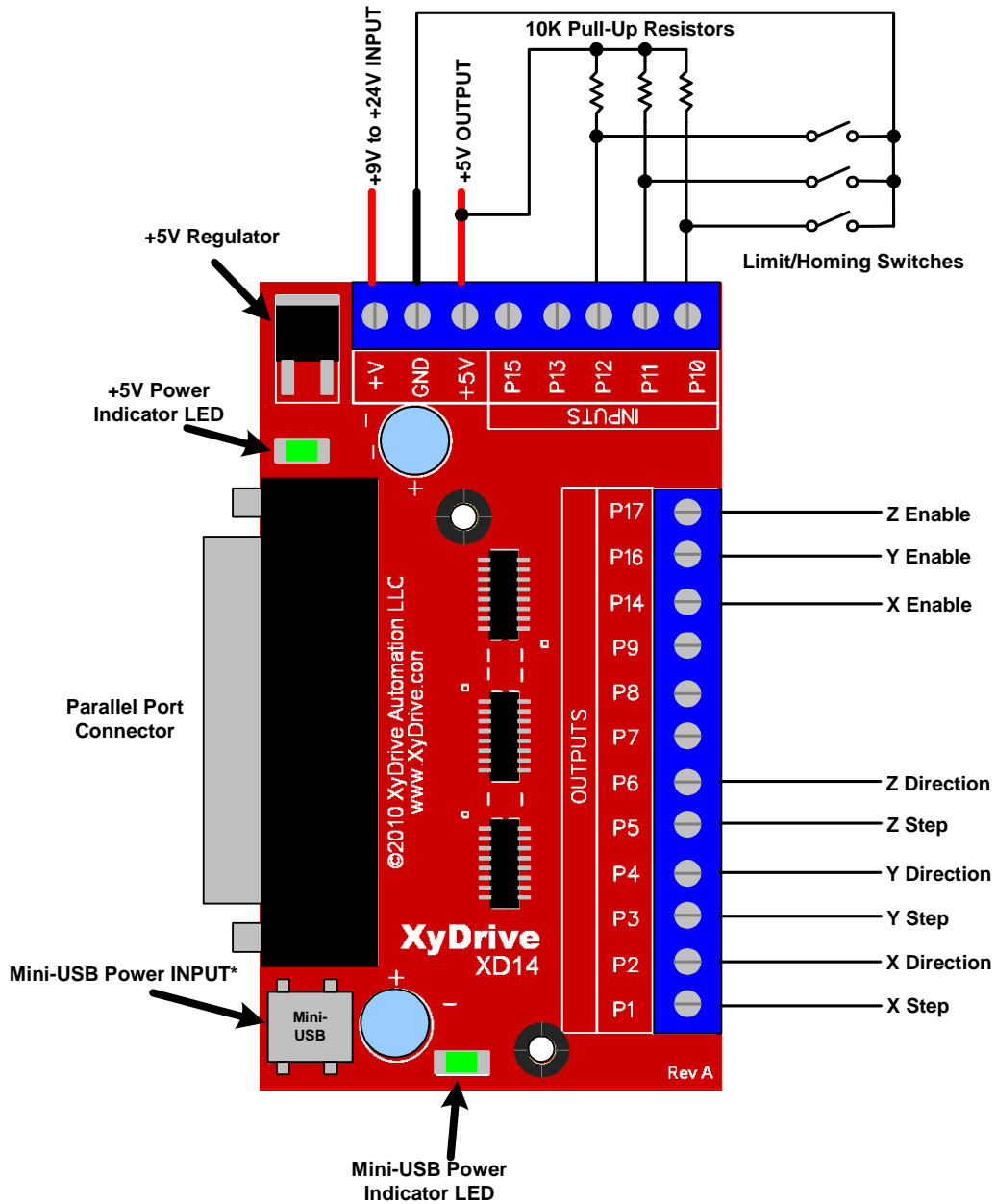
Board Configuration:

Figure 1 Typical Wiring