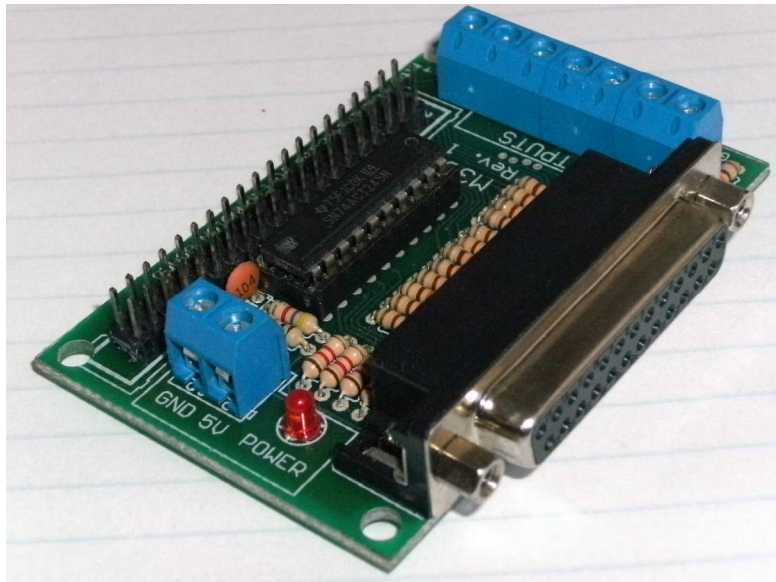


M35 - LPT to Input Expansion Adapter Board Rev. 1

User manual Rev. 1



1. Overview

This board serves as an interface board for inputs expansion boards provided by CNC4PC (M21 and M27) and a LPT port. The board also provides 4 buffered outputs and 1 buffered input available through onboard terminals.

2. Features

- **IEEE 1284 Standard compatible.** Includes the circuitry recommended by the IEEE 1284 Level 1 standards for bidirectional parallel communications between personal computers and peripherals
- **Buffered outputs 1, 14, 16 and 17 available through terminals.**
- **Buffered input 15 available through terminal.**
- **Input pins 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13 to be used with expansion board.**
- **ground and +5vdc connections close to input and outputs terminals.**
- **Works directly with popular CNC hardware and software.** Such as Geckodrive, DeskCNC or Rutex, and parallel port control software, such

- as mach2, Linux EMC, TurboCNC, CNCPlayer, CNCZeus and others. (Not all tested).
- **All TTL 5VDC signals.** Interface directly with parallel port interface products and other CNC4PC cards. 5VDC (TTL) cards are very common among automation devices.
 - **Screw-On connections for all outputs terminals and input 15 terminal.** You only have to screw-on the wires to make all your connections.

3. Specifications.

DIGITAL INPUT SPECIFICATIONS	
On-state voltage range	2 to 5V DC
Maximum off-state voltage	0.8V
Maximum operation frequency	4 MHz
Typical signal delay	10nS

DIGITAL OUTPUT SPECIFICATIONS	
Maximum output voltage	(5V power supply voltage) + 0.5V
Typical output current	24mA
Maximum off-state voltage	0.44 V
Maximum operation frequency	4 MHz
Typical signal delay	10 nS

Note: All Inputs are straight connected from the expansion pin header to the DB25 connector except input 15 that is available through onboard terminal.

Requirements:

It requires a 5VDC @ 300 milliamps power supply to operate.



WARNING

Check the polarity and voltage of the external power source and connect the 5V and GND. Overvoltage or reverse-polarity power applied to these terminals can cause damage to the board, and/or the power source.

4. Functional Block Diagrams

Note: All Inputs are straight connected from the expansion pin header to the DB25 connector except input 15 that is available through onboard terminal.

4.1 Input 15 simplified functional block diagram

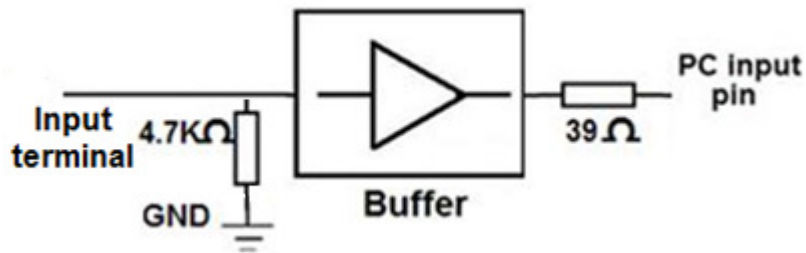


Fig. 1 Simplified functional block diagram for the input.

4.2 Outputs simplified functional block diagram

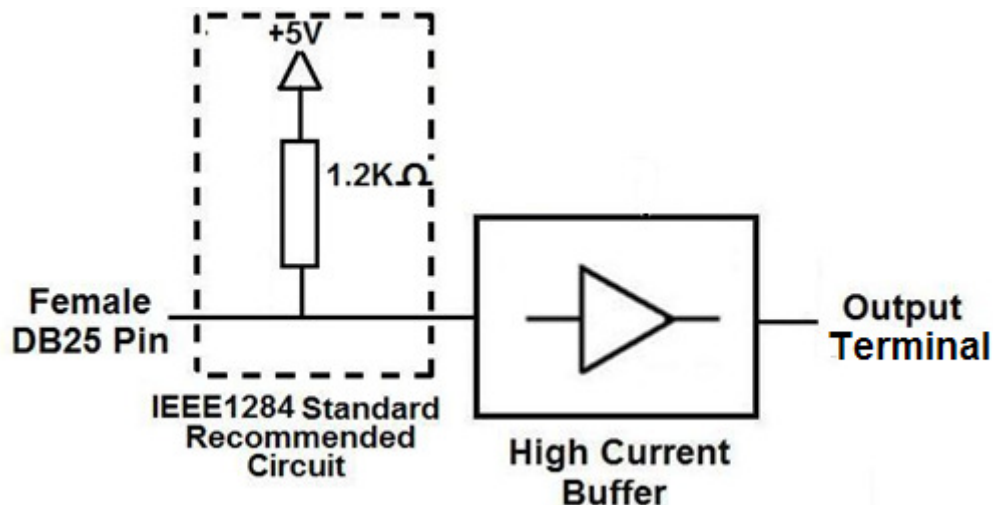


Fig. 2 Simplified functional block diagram for the outputs.



WARNING: This card must have the power supplied while it is connected to the PC. If power is removed to the card while it is connected to the PC, noise can be introduced to the output lines. This can create a dangerous situation as relays or other devices that might be connected to this card could get activated.

5. Wiring diagrams

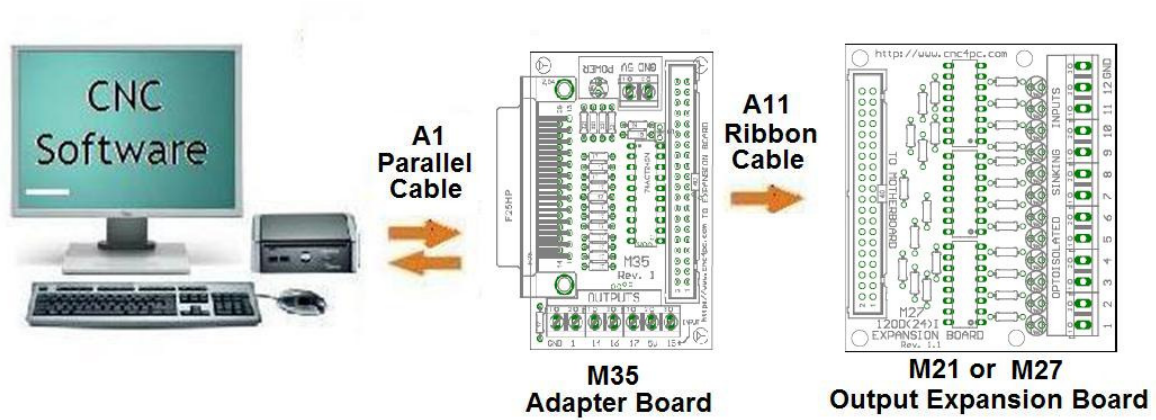


Fig. 3 M35 Connection scheme

