
4.6.4 LPT JTAG Setting

The LPT based JTAG controller does not have a fixed schematic, even for WIGGLER and SDT-JTAG. Some JTAG emulator comes with nSRST, while others don't have. Some JTAG emulator provides separate nSRST and nTRST, while others connected them together. To support different LPT based JTAG emulators, H-JTAG provides a flexible configuration interface. What user needs to do is tell H-Jtag exactly how the JTAG emulator is connected to LPT.

The LPT provides 8 data bits, D0-D7, as output and several status bits as input. The data bits can be used as JTAG output signals, TMS, TCK, TDI, nSRST and nTRST. Any one of the status bits can be used as input to sample TDO. The JTAG configuration is to specify how the JTAG signals are connected with the data bits and status bits. On some JTAG emulator, the nSRST and nTRST are inverted. These also need to be specified in the JTAG configuration.



Next, let's look at an illustrative example. The schematic of the JTAG emulator used in the example is shown in Fig 4-7. The connection between LPT and JTAG can be obtained from the schematic and is listed in the following table. Please note that the nTRST signal is inverted and no nSRST signal is provided.

TMS	➡	LPT D1 (PIN3)
TCK	➡	LPT D2 (PIN4)
TDI	➡	LPT D3 (PIN5)
TDO	➡	LPT BUSY (PIN11)
nTRST	⬅	LPT D0 (PIN2) INVERTED
nSRST	X	NOT AVAILABLE

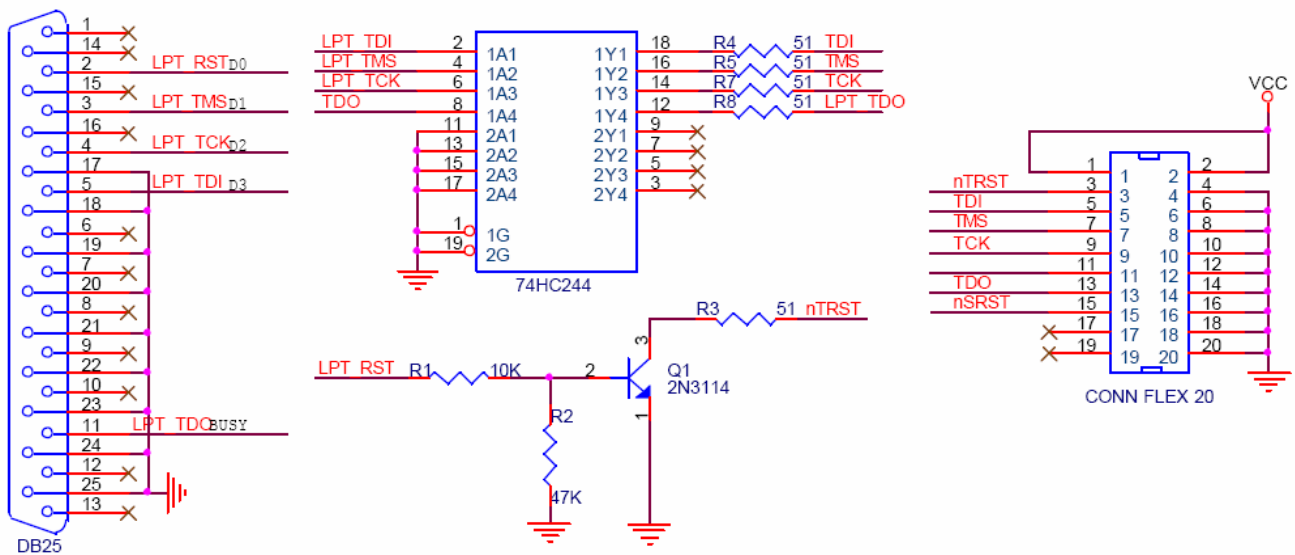


Fig 4-7 Example Schematic of JTAG Emulator

Based on the schematic given in Fig 4-7 and the above analysis, any of the following settings can be used. Both the settings given in Fig 4-8 tell exactly how LPT is connected to the JTAG interface via the JTAG emulator. The given example is only for reference. In practice, please configure according to the schematic of user's own JTAG emulator.

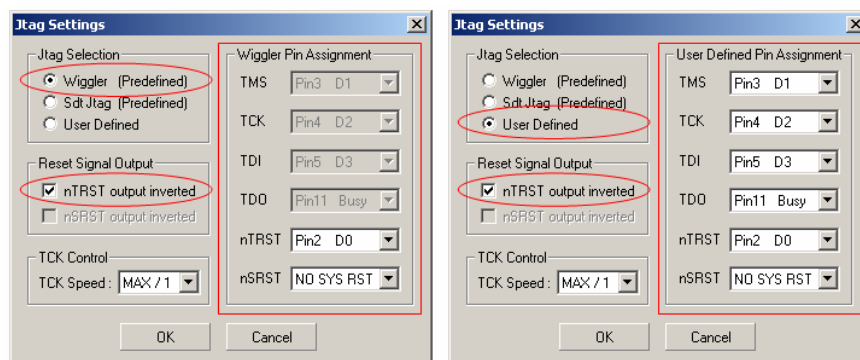


Fig 4-8 Example JTAG Settings

In the dialog of LPT JTAG settings, user can also choose different TCK speed. The selectable TCK speed ranges from MAX to MAX/8. Actually, the parallel port is a low speed interface. In practice, user is suggested to use MAX/1 as the default speed to achieve maximum performance.

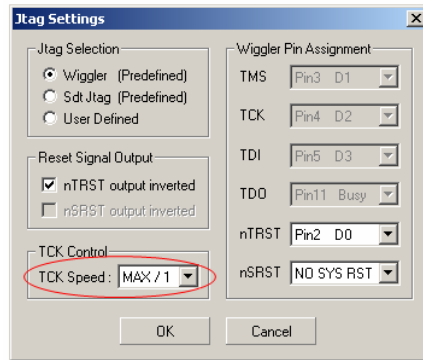


Fig 4-9 Selection of LPT TCK Speed

4.7 LPT Port Setting

For most PCs, the default LPT address is 0x378, but there are some exceptions. In H-Jtag, different port addresses can be specified. The dialog for port setting is shown in Fig 4-10. In the dialog, there also has a test button, which can be used for some simple port read/write test.

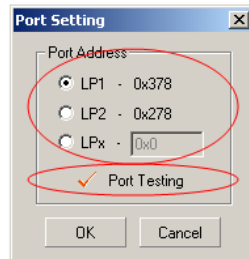


Fig 4-10 LPT Port Setting