

FTDI GPIO configuration

High byte = ACBUS								Low byte = ADBUS							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0

Direction : 0 = input, 1 = output

The initial state of inputs must be set to 0.

MPSSE pin functions

Pin	FT232H	FT2232H	FT4232H (*)
ADBUS0	TCK/SK	TCK/SK	TCK/SK
ADBUS1	TDI/DO	TDI/DO	TDI/DO
ADBUS2	TDO/DI	TDO/DI	TDO/DI
ADBUS3	TMS/CS	TMS/CS	TMS/CS
ADBUS4	GPIOL0	GPIOL0	GPIOL0
ADBUS5	GPIOL1	GPIOL1	GPIOL1
ADBUS6	GPIOL2	GPIOL2	GPIOL2
ADBUS7	GPIOL3	GPIOL3	TCK/SK
ACBUS0	GPIOH0	GPIOH0	n.a.
ACBUS1	GPIOH1	GPIOH1	n.a.
ACBUS2	GPIOH2	GPIOH2	n.a.
ACBUS3	GPIOH3	GPIOH3	n.a.
ACBUS4	GPIOH4	GPIOH4	n.a.
ACBUS5	GPIOH5	GPIOH5	n.a.
ACBUS6	GPIOH6	GPIOH6	n.a.
ACBUS7	GPIOH7	GPIOH7	n.a.

(*): The FT4232H has JTAG on channels A and B, i.e. ADBUS n and BDBUS n are isofunctional. Channels C and D (CDBUS n and DDBUS n) can only be used for RS232 or bit-bang interface.

Application to OpenOCD configuration

In OpenOCD, the **ftdi_layout_init** command accepts 2 arguments, **data** and **direction**. Those are 16-bit numbers defining the initial state and the direction of the GPIO pins, respectively.

For instance, **ftdi_layout_init 0x0008 0x001b** defines:

- All ACBUS lines as inputs,
- ADBUS2 (TDO), ADBUS5, ADBUS6, and ADBUS7 as inputs,
- ADBUS0 (TCK), ADBUS1 (TDI), ADBUS3 (TMS) and ADBUS4 as outputs, with an initial state of 1 for TMS, and 0 for TCK, TDI, and ADBUS4.