Alt0	Alt1	Alt2	Alt3	Alt4	Alt5		PIN #	PIN #		Alt0	Alt1	Alt2	Alt3	Alt4	Alt5
						3.3V DC POWER	1 (	2	5V DC POWER						
I2C1 SDA	SMI SA3	DPI V-Sync				(I2C1_SDA) GPIO 2	3 (	9 0 4	5V DC POWER						
I2C1 SCL	SMI SA2	DPI H-Sync				(I2C1_SCL) GPIO 3	5 (	<b>9 6</b>	GROUND						
GPCLK0	SMI SA1				JTAG TDI	(GPCLK0) GPIO 4	7 (	8	GPIO 14 (UARTO_TXD)	UART0 TXD	SMI SD6	DSI Green 6			UART1 TXD
						GROUND	9	10	GPIO 15 (UARTO_RXD)	UART0 RXD	SMI SD7	DSI Green 7			UART1 RXD
Reserved	SMI SD9	DPI Red	UARTO RTS	SPI1 CE1	UART1 RTS	GPIO 17	11 (	12	GPIO 18 (PCM_CLK)	PCM CLK	SMI SD10	DPI Red 4	BSCL SDA / MOSI	SPI1 CE0	PWM0
SD0 DAT3	Reserved	Reserved	SD1 DAT3	JTAG TMS		GPIO 27	13 (	14	GROUND						
SD0 CLK	SMI SD14	Reserved	SD1 CLK	JTAG TRST		GPIO 22	15 (	16	GPIO 23	SD0 CMD	SMI SD15	Reserved	SD1 CMD	JTAG RTCK	
						3.3V DC POWER	17 (	18	GPIO 24	SD0 DAT0	SMI SD16	Reserved	SD1 DAT0	JTAG TDO	
SPI0 MOSI	SMI SD2	SPI Green 2				(SPI_MOSI) GPIO 10	19 (	<b>2</b> 0	GROUND						
SPI0 MISO	SMI SD1	DPI Blue 7				(SPI_MISO) GPIO 9	21 (	22	GPIO 25	SD0 DAT1	SMI SD17	Reserved	SD1 DAT1	JTAG TCK	
SPI0 SCLK	SMI SD3	DPI Green 3				(SPI_SCLK) GPIO 11	23 (	<u> </u>	GPIO 8 (SPI_CE0_N)	SPI0 CE0	SMI SD0	DPI Blue 6			
						GROUND	25	<b>9</b> 26	GPIO 7 (SPI_CE1_N)	SPI0 CE1	SMI SWE_N / SRW_N	DPI Blue 5			
I2C0 SDA	SMI SA5	DPI CLK				(I2C ID EEPROM) ID_SD	27 (	<u> </u>	ID_SC (I2C ID EEPROM)	I2C0 SCL	SMI SA4	DPI DEN			
GPCLK1	SMI SA0	DPI Blue 3			JTAG TDO	GPIO 5	29 (	30	GROUND						
GPCLK2	SMI SOE_N / SE	DPI Blue 4			JTAG RTCK	GPIO 6	31 (	32	GPIO 12	PWM0	SMI SD4	DPI Green 4			JTAG TMS
GPCLK2	SMI SOE_N / SE	DPI Blue 4			JTAG RTCK	GPIO 13	33 (	34	GROUND						
PCM FS	SMI SD11	DPI Red 5	BSCL SCL / SCLK	SPI1 MISO	PWM1	GPIO 19	35 (	36	GPIO 16	Reserved	SMI SD8	DPI Red 2	UARTO CTS	SPI1 CE2	UART1 CTS
SD0 DAT2	Reserved	Reserved	SD1 DAT2	JTAG TDI		GPIO 26	37 (	38	GPIO 20	PCM DIN	SMI SD12	DPI Red 6	BSCSL MISO	SPI1 MOSI	CPCLK0
						GROUND	39	40	GPIO 21	PCM DOUT	SMI SD13	DPI Red 7	BSCSL CE	SPI1 SCLK	GPCLK1



## I<sup>2</sup>C

A low speed interface used to communicate with multiple simple device and sensors via a two wire interface. Inter-Integrated Circuit (I<sup>2</sup>C) is a serial bus interface which supports multiple devices and only requires two wires for communication (no separate clock or device select needed). It is, limited to relatively low speeds (10-100kbits/s).

## UART

UART IS primarily for access to the serial console which is a relatively advanced feature that most people won't use. Universal Asynchronous Receiver/Transmitter (UART) is a method of transmitting data over a serial connection. Both of the communicating devices contain a shift register that converts the bytes of data being transmitted into a stream of bits

## CDI

Often used to read more complicated sensors, drive simple displays, or communicate between devices. Serial Peripheral Interface Bus (SPI) is a synchronous full-duplex (two-way) serial connection. Connunication happens between a master device and a slave device with the master device providing synchronisation. The data is transmitted on the MOSI (master-out, slave-in) and MISO pins (master-in, slave-out) pins. Each transmission is synchronised by a clock pulse on SCLK.

## **40 Pin GPIO Guide** Raspberry Pi