

USB-IR Data Sheet

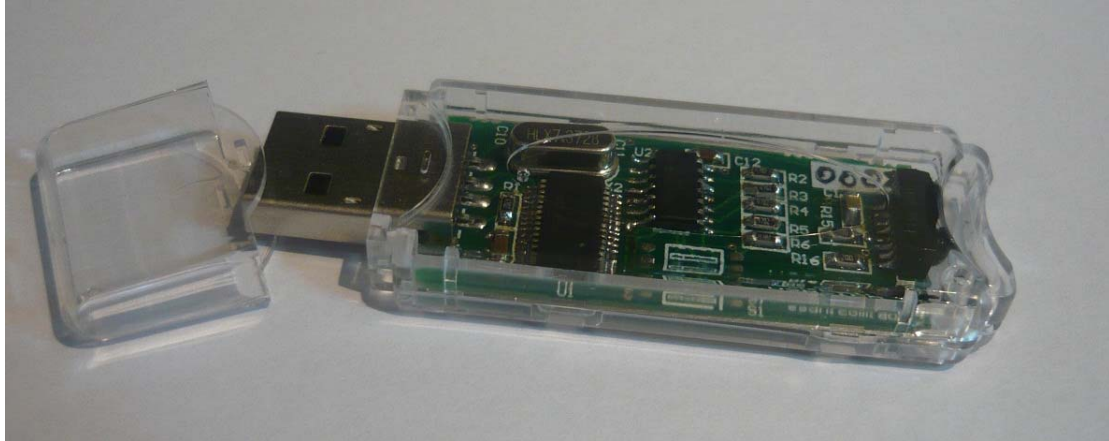


Figure 1 - photograph of USB-IR device

Over View

The USB-IR device is an infrared USB adaptor which can be used to communicate with other devices using the infrared SIR 3/16 interface. When installed, the USB-IR will appear as a virtual com port. The driver can be downloaded from:

<http://www.ftdichip.com/Drivers/VCP.htm>

Parameters

Parameter	Value	Nominal
Baud rate	9600 to 115200	9600
Supply	5V (USB Powered)	-
Current (Idle)	<5mA	2mA

Table 1 - Electrical Characteristics

Baud Rate

The baud rate is selectable with a 4 way dipswitch in the middle of the USB-IR device, using the table below. Note that typically this dipswitch is not installed and must be requested with the order. The crystal used has a frequency of 7.3728MHz.

Dipswitch Setting 1-4	Baud Rate
0111	9600
0000	9600
0001	19200
0010	38400
0011	57600
0100	115200

Table 2 - Baud Rate selection

In Table 2, 0 is equivalent to ON and 1 is equivalent to OFF.

Other baud rate settings may be achieved by changing the crystal frequency as shown in Table 3. Dip switch 1 is the mode input which can be used to set the baud rate via software (*refer to Microchip MCP2120 data sheet*).

TABLE 2-1: HARDWARE BAUD RATE SELECTION VS. FREQUENCY

BAUD2:BAUD0	Frequency (MHz)							Bit Rate
	0.6144 ⁽¹⁾	2.000	3.6864	4.9152	7.3728	14.7456 ⁽²⁾	20.000 ⁽²⁾	
000	800	2604	4800	6400	9600	19200	26042	Fosc / 768
001	1600	5208	9600	12800	19200	38400	52083	Fosc / 384
010	3200	10417	19200	25600	38400	78600	104167	Fosc / 192
011	4800	15625	28800	38400	57600	115200	156250	Fosc / 128
100	9600	31250	57600	78600	115200	230400	312500	Fosc / 64

Note 1: An external clock is recommended for frequencies below 2 MHz.

2: For frequencies above 7.5 MHz, the TXIR pulse width ([parameter IR121](#)) will be shorter than the minimum pulse width of 1.6 μ s in the IrDA standard specification.

Table 3 - Alternate Baud Rates

Interference

The USB-IR device is designed to transmit Serial Infrared using the 3/16 modulation method. In the presence of high levels of infrared, data may not be transmitted or may be corrupted. Computer monitors emit large levels of infrared and direct sunshine has a high infrared component so care should be taken when operating in these environments.