

32352-MP

IR Remote Control Transmitter/Receiver Pair

IR Transmitter & Receiver module for Arduino, Raspberry-Pi and Other Controllers

Compact Transmitter "Clicker" and a Mini receiver module using the 1838T I/R Digital receiver.

TRANSMITTER:

21 button bubble keypad, Powered by a CR2025 coin cell.

Uses the NEC code protocol

NEC Code Format:

Logic "1": 562.5us pulse burst followed by 1.6875ms "Space" (total 2.25ms)

Logic "0": 562.5us pulse burst followed by 562.3 "Space" (total 1.125ms)

FORMAT:

9ms leading pulse burst (16 times the burst time for a data bit)

4.5mS Space

8bit address for receiver (This is set by user in their software)

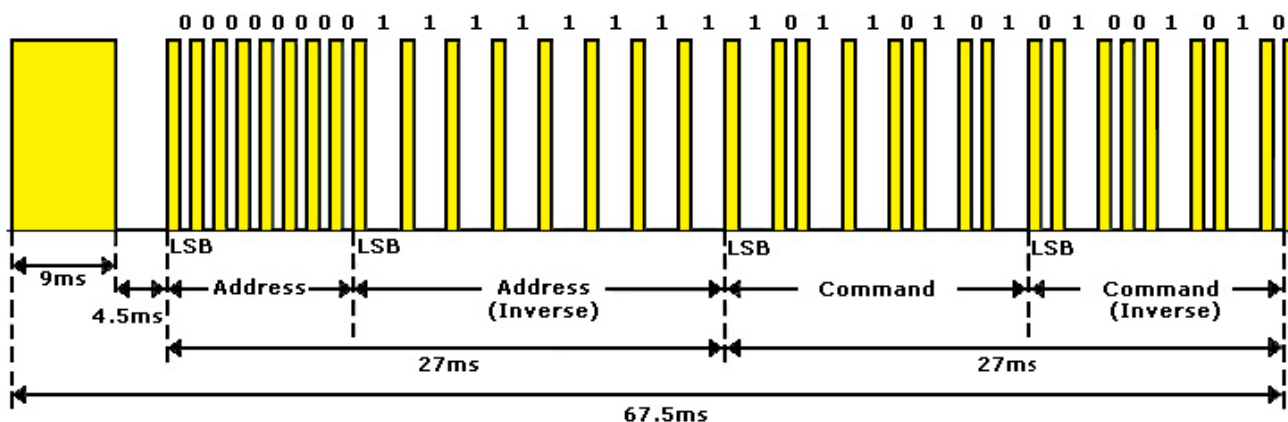
8bit inverse address

8bit command

8bit inverse of command

562.5us pulse burst for End of Message

The four bytes of data bits are each sent least significant bit first. Figure 1 illustrates the format of an NEC IR transmission frame, for an address of 00h (00000000b) and a command of ADh (10101101b).



RECEIVER:

Small board designed for remote control systems with the 1838T receiver that contains the opto PIN diode, pre-amp, filtering, demodulator in one small package. Uses 1 pin of the microcontroller GPIO.

Code libraries, applications and Information & Freeware available through: www.arduino.cc/en, www.raspberrypi.org and others.

Power: 5VDC

Frequency: 38KHz

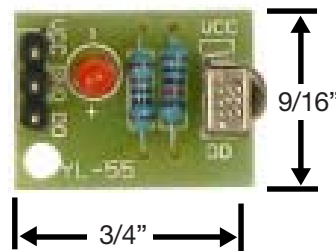
Output: TTL compatible Data, Current Sink

Connection: 3 Pin .1in. Pitch Header

Data I/R signal should follow the following guidelines

Burst length: >6 Cycles

Gap Length: >9 Cycles (>14ms) at least every 90ms



Information obtained from or supplied by Mpja.com or Marlin P. Jones and Associates inc. is supplied as a service to our customers and accuracy is not guaranteed nor is it definitive of any particular part or manufacturer. Use of information and suitability for any application is at users own discretion and user assumes all risk.



MARLIN P. JONES & ASSOC., INC.

P.O. Box 530400 Lake Park, FL 33403

800-652-6733 FAX 561-844-8764

WWW.MPJA.COM

32352-MP

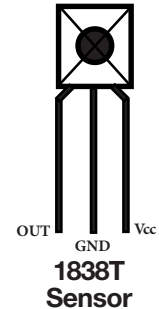
IR Remote Control Transmitter/Receiver Pair

RECEIVER CONT:

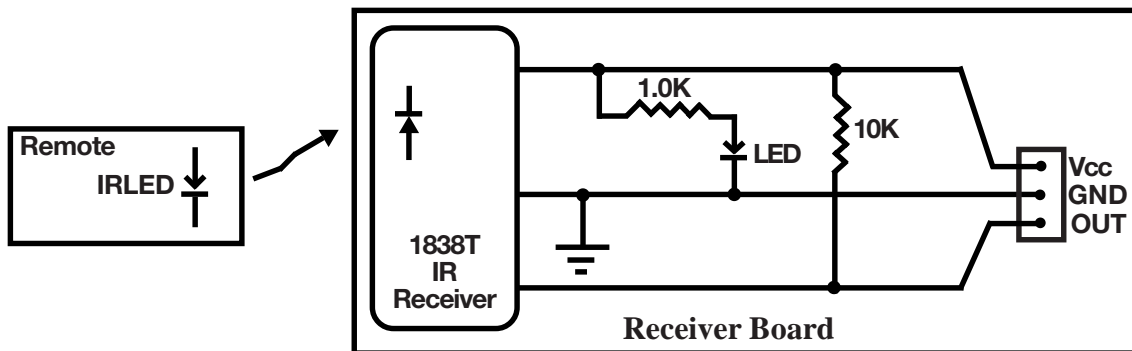
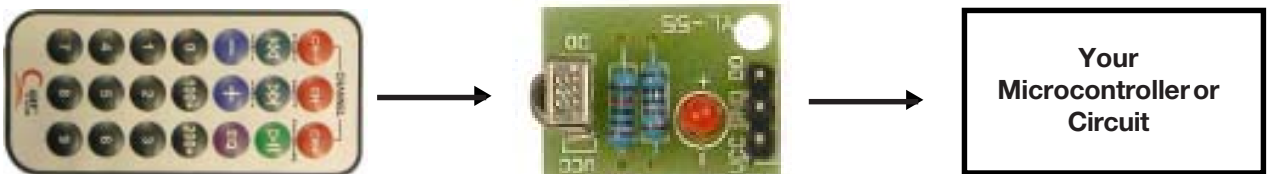
1838T I/R Receiver Sensor

Conditions: T= 25C Vcc=5V fo= 38KHz Emitter=L51R I/R LED @ 300mA

Parameter	Symbol	Cond.	Min	Typ	Max	Unit
Power	Vcc		2.7	-	5.5	V
Freq. Oper.	Fo			38KHz		Hz
Bandwidth	Fbw	-3db		8		KHz
1/2Angle	$\theta_{1/2}$			+35		Deg
V output Low	Vol	@Iol.=5mA		0.2	0.4	V
V output High	Voh		Vcc-.3		Vcc	V
Range	L		22	25		M
OperatingCurrent	Icc			0.6	0.8	mA
Pulse Width Low	Tpwl		500	600	700	us
Pulse Width High	Tpwh		500	640	740	us
Temperature	T _{op}		-20	25	85	C ^o
I/R Wave Length	λ		900	950	1000	nm



Operational Configuration



Information obtained from or supplied by Mpja.com or Marlin P. Jones and Associates inc. is supplied as a service to our customers and accuracy is not guaranteed nor is it definitive of any particular part or manufacturer. Use of information and suitability for any application is at users own discretion and user assumes all risk.



MARLIN P. JONES & ASSOC., INC.

P.O. Box 530400 Lake Park, FL 33403

800-652-6733 FAX 561-844-8764

WWW.MPJA.COM