BeamIR Advanced Infrared Emitter Module

Features

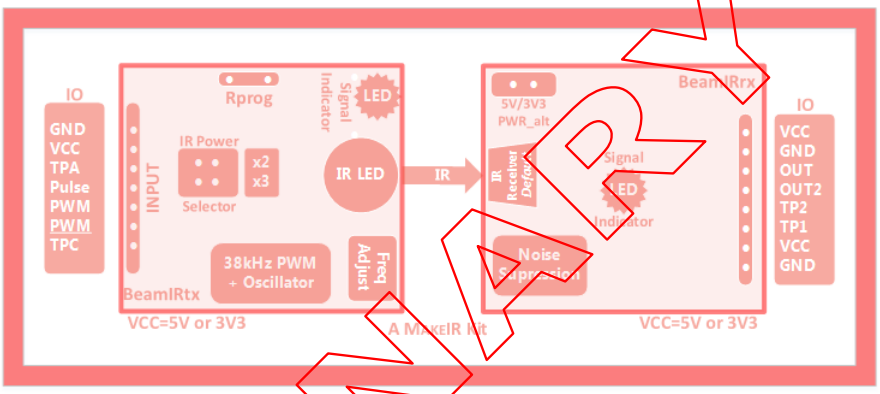
BeamIR, the Advanced Infrared light barrier modules include:

- Independent Tx & Rx modules
- Constant current IR transmission design
- Selectable x1, x2, x3+ Power for Emitter via jumpers
- Customisable range via programmable TH resistor
- 5V or 3V3 supply
- Quality IR emitter/receiver
- Range: up to 10-40m+
- Visual LED indicator for signal lock (Rx + Tx)
- Bonus Features:
  - Emitter power selector
  - Adjustable carrier frequency
- PCB Size: 25x25x11mm *(LxWxH)*

Applications

BeamIR, the Advanced Infrared Light Barrier modules can be used in the following:

- Light Barriers
- Security projects
- Lap Timers
- Laser Tag + invisible trip wire
- Photography
- Photo Interrupter
- Reflective sensors for hand dryers, towel or soap
- Dispensers, water faucets, toilet flush
- Vending machine fall detection
- Virtual 'fence'
- CNC wireless Probes
- Security and pet gates
- Person or object vicinity activation



BeamIR Overview

BeamIR is an advanced module for light barrier and reflective applications for short to long range.

BeamIR allows makers, hobbyists and professionals to construct a range of 'detection' style projects using quality IR components and excellent design features. The beam is invisible to all targets. BeamIR is a superior solution to standard IR emitters and provides excellent range and signal quality for both 3V3 and 5V systems. It can be powered directly from microcontroller systems, batteries or via an independent DC power supply.

What is BeamIR

BeamIR is made up of 3 components:

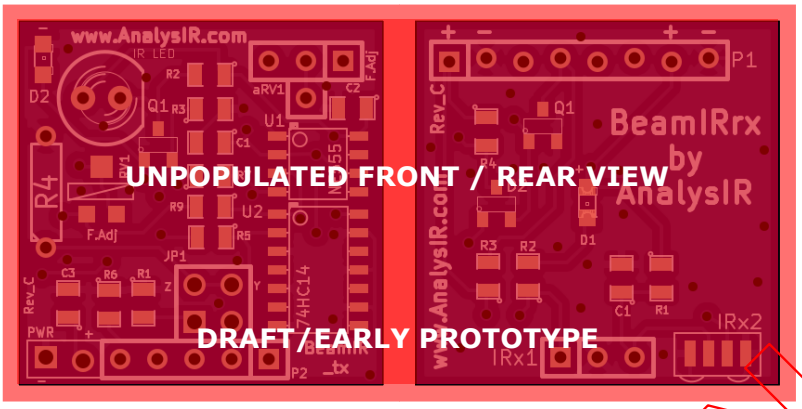
- The BeamIR board Tx module.
- The BeamIR board Rx module.
- You will likely attach the Rx module and in some cases the Tx module to a 3rd party system. *(Not Included.)*
- A power supply provided via the microcontroller, battery pack or via an independent DC power source. *(Not Included.)*

BeamIR is an excellent companion device for any 5V or 3V3 project. It can be integrated in to a range of applications as per the list to the left. The PWM, inverted PWM and Pulse IOs available on the TX module support the addition of enhanced functionality, beyond the listed applications.

The BeamIR Tx module can be used to send IR signals from an MCU without using the PWM peripheral on-board the MCU or if the MCU does not have PWM capability. The BeamIR Rx module can be used on its own to record and decode difficult or very long infrared signals, with the demodulated output fed into an MCU or equivalent.

What's Included

Each BeamIR system comes with a Tx & Rx module pair pre-calibrated to operate at 38kHz @ 5v and power selection jumpers.



You can opt to have the emitters and header pins soldered or not. Test points and spare positions are not populated.

IR range can be increased further by installing a programming resistor on the PCB. This is a feature of all of our constant current IR emitter designs in the MAKEIR Kit series.

Customisation

BeamIR comes calibrated for 38 kHz operation at 5V. Custom configuration are possible for driving relays and other circuits for an additional fee.

Licensing Model & Purchase

BeamIR, is supplied under a single licence which covers both non-commercial and commercial use. You can purchase your own BeamIR module via: http://www.ANALYSIR.com/ and other outlets. The BeamIR design & hardware is also available for integration into 3rd party systems. Custom designs are possible with bulk orders.

Service and Support

Support is provided for BeamIR via email or our on-line IRforum. Contact details for support are provided at time of purchase. Support is available only using your registered email address.

A MAKEIR Kit

BeamIR is part of the MAKEIR series which comprises a range of innovative infrared remote control kits for makers, hobbyists and professionals.
(For launch in Q3 2015 – visit www.ANALYSIR.com for details)

Additional Information

For more information visit http://www.ANALYSIR.com/ or contact us directly using the contact information below.

Minimum Requirements

- Power Supply providing 5v or 3V3.
- Power can be supplied directly from USB or an independent source.

Infrared Innovations

BeamIR features a number of attractive design elements:

- Selectable IR power jumpers are provided on board for x1, x2 and x3 power settings.
- A programmable TH resistor can be easily added to provide for custom power/range settings.
- The constant current circuit design delivers quality signals every time.
- PWM and inverted PWM signal available on Tx module headers, in addition to enable/disable/pulse signal.
- Standard logic and Inverted logic output provided on Rx module.

Modulation Frequencies

BeamIR is optimised for a carrier frequency of 38kHz, but can be adjusted to a range of other common frequencies is required at the Infrared 940nm wavelength.

IR formats

BeamIR can be used to emit custom IR protocols or encoding thru the use of the pulse input on the Tx module. This can be useful to mitigate interference in outdoor locations.

Outdoor use

Precautions should be taken to minimise interference from Sunshine. Contact support for assistance – details below.

About ANALYSIR

ANALYSIR is committed to providing leading edge Infrared solutions & technology to our Maker, hobbyist, EDU and Professional users globally.

23-Sep-15

ANALYSIR,
Designed in Dublin, IRELAND.
Email: info@ANALYSIR.com
Support: support@ANALYSIR.com
Web: http://www.ANALYSIR.com