A.IR Shield Photon for AnalysIR

Features

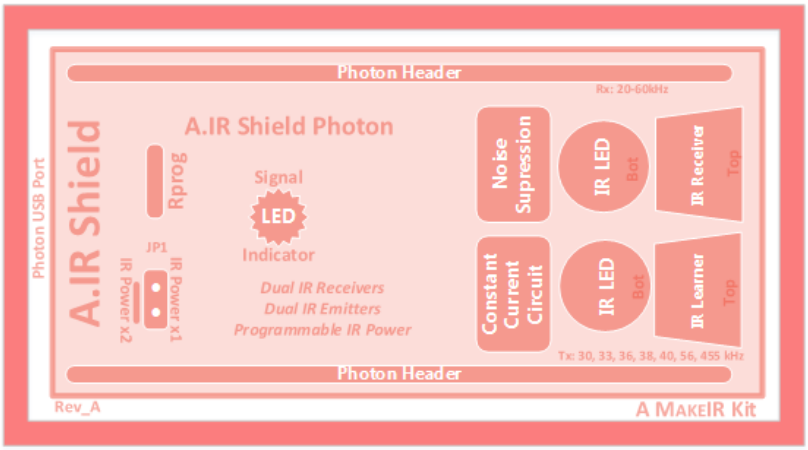
A.IR, the Advanced Infrared shield for Photon includes:

- Configuration Options as:
  - x1, x2+ IR Power
  - AnalysIR source device support with IR Tx & Rx
  - Dual IR emitters
- Noise suppression Rx circuit
- Visual IR signal indicators.
- Uses 3V3 & 5V Photon Pins
- High quality IR Receiver
- High quality IR Learner
- Typical Range: <45m(rx)
- Plugs directly into 'Photon'
- Bonus Features:
  - Programmable IR power.
  - Hardware PWM
- Wide 20kHz to 60kHz carrier frequency Rx bandwidth
- 20-60kHz & 455kHz carrier frequency Tx range
- Works via WiFi or Serial USB I/F
- PCB Size: 20x25x15mm*(LxWxH)*

Applications

A.IR - the Advanced Infrared transceiver module for Photon can be used in the following:

- Use with AnalysIR for Tx & Rx
- Powerful IR emitters for extended range and quality
- High quality receiver modules for IR remote control
- Testing & monitoring
- Integration into 3rd party IR & non-IR projects
- Your own custom IR sketches by customising the supplied firmware.



A.IR Shield Photon Overview

A.IR is a high-spec shield which operates seamlessly with AnalysIR or your own custom sketches – supporting IR send and receive. Carrier frequency measurement and reporting is supported by AnalysIR. By default, A.IR is supplied with headers soldered and the AnalysIR firmware is available for download after purchase. Users can load any custom sketch onto A.IR using the standard Photon IDE by reusing the supplied firmware. The A.IR shield works over the serial USB interface or WiFi.

A.IR allows makers, hobbyists and professionals record and send a large range of IR signals using quality Vishay IR components and excellent design features. A.IR provides excellent reception range and signal quality. It is powered directly from the 'Photon' PCB, and makes use of the available 5V and 3V3 on-board supplies.

RedBear DUO Ready!

What is the A.IR Shield Photon

A.IR is made up of the following key components:

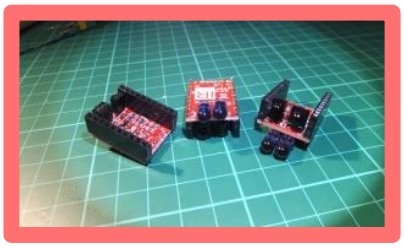
- The A.IR shield with integrated high quality IR receivers, which can provide a range of functionality from IR decoding, remote control or measurement of IR carrier frequency.
- A Photon or pin-compatible clone, into which the shield plugs and which makes use of the Particle Photon IDE. *(not included)*
- Dual high-power IR emitters backed up by a power selection header – providing an effective selection of x1, x2+ IR power levels. (IR current of circa 100mA, 200mA with single IR emitter or 200mA, 400mA equivalent with Dual IR emitters).

A.IR is an excellent companion device for any project and is specifically designed to work as a plug and play solution with AnalysIR. It will also operate with most other IR projects.

A.IR uses the best design and IR components for modern Infrared remote control ensuring optimum performance in all environments.

What's Included

Each A.IR shield is configured with high quality IR components to ensure the best performance. You can opt to have the receivers, emitters and headers soldered or not *(subject to availability).* They come pre-soldered by default.A.IR now comes with firmware for operation with AnalysIR, which provides the best performance.



Users can easily load any other compatible sketch onto the Photon. *Note: Photon not included.* A getting started guide is also provided.
The A.IR Shield Photon also works with the RedBear DUO via the Particle IDE. The DUO is feature & pin compatible with the Photon.

Develop your own Custom Applications

Although the shield was designed for use with AnalysIR you can create some interesting projects using the shield by extending the supplied firmware. For example:

- Networked remote controlled from your Phone.
- Control devices remotely over the internet.
- Logging of IR commands to cloud storage, EEPROM/SD or external Flash.
- Control AIR Conditioners in homes and workplaces.
- Integrate with basic and advance home entertainment systems.

In order the get the maximum benefit from the shield we recommend picking up a copy of AnalysIR, which will save many hours in trying to understand & troubleshoot your IR signals.

Licensing Model & Purchase

The A.IR shield Photon, is supplied under a single licence which covers both non-commercial and commercial use of supplied hardware & software with an original A.IR shield. You can purchase your own A.IR module via: http://www.AnalysIR.com/ and other outlets. The A.IR shield design & hardware is also available for integration into 3rd party systems or bundling with kits. Custom designs are possible with bulk orders.

Any trade-marks referenced in this document are the property of their respective owners. *In particular, there is no commercial relationship or endorsements between AnalysIR and Vishay, any Particle entity or Photon clone manufacturer.*

Service and Support

Support is provided for the A.IR shield 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

A.IR Shield Photon is part of the MakeIR series which comprises a range of innovative infrared remote control modules for makers, hobbyists & professionals.
(Available now – visit www.AnalysIR.com for details)

Minimum Requirements

- An A.IR shield
- A Particle Photon with headers or clone *(not included)*
- A PC or equivalent with USB and/or WiFi/LAN connection.
- A WiFi network
- Power Supply, usually via USB. (5v)
- Particle Photon IDE 0.4.7 or later

Quality IR Components

A.IR uses the highest quality infrared components available from Vishay.

Carrier Frequencies

A.IR supports all of the common IR receiver carrier frequencies: 30kHz, 33kHz, 36kHz, 38kHz, 40kHz, 56kHz at the Infrared 940nm wavelength (i.e. 20-60kHz). In addition, the emitter can transmit at 455kHz.

IR formats

A.IR works with all common modulated remote control signals and formats, including very long Air Conditioner signals, which covers the vast majority of systems in the market. It performs very well with difficult signals.

What is Included

- 1 x A.IR shield
- 2 x IR on-board emitters
- Getting started instructions.
- A.IR Photon firmware sketch for AnalysIR.
- Example firmware for sending IR signals.
- Online Support.

About AnalysIR

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

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