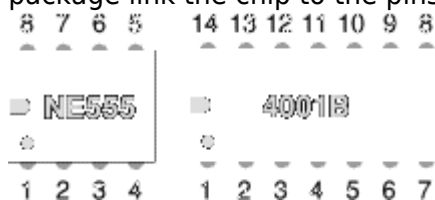


# Glossary I

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## ICs

Integrated Circuits are usually called ICs or chips. They are complex circuits which have been etched onto tiny chips of semiconductor (silicon). The chip is packaged in a plastic holder with pins spaced on a 0.1" (2.54mm) grid which will fit the holes on stripboard and breadboards. Very fine wires inside the package link the chip to the pins.



<http://www.kpsec.freeuk.com/components/ic.htm>

## ICSP

**In Circuit Serial Programming.**

A means whereby microprocessors (PICs etc), may be programmed while mounted in the circuit they are intended to control. There are NO standard physical designs used for ICSP. Many MERG modules are provided with a common design connector to facilitate this, and a lead to connect the popular PICKIT programmer to the CBUS connector is [shown here](#).

## Incandescent lamps

Lamps emit light when an electric current passes through them. All of the lamps shown on this page have a thin wire filament which becomes very hot and glows brightly when a current passes through it. The filament is made from a metal with a high melting point such as tungsten and it is usually wound into a small coil.

Filament lamps have a shorter lifetime than most electronic components because eventually the filament 'blows' (melts) at a weak point.



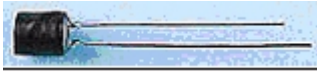
<http://www.kpsec.freeuk.com/components/lamp.htm>

## Inductor

An inductor is a coil of wire which may have a core of air, iron or ferrite (a brittle material made from iron). Its electrical property is called inductance and the unit for this is the Henry, symbol H. 1H is very large so mH and uH are used, 1000uH=1mH and 1000mH=1H. Iron and ferrite cores increase the inductance.

Inductors are mainly used to tune circuits and to block high-frequency AC signals (they're sometimes called chokes)

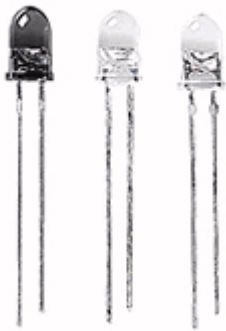
They pass DC easily, but block AC signals; this is the opposite action to a capacitor.



<http://www.kpsec.freeuk.com/components/other.htm#inductor>

## Infra red emitter

These are LEDs which emit outside of the visible light range. IR emitters are generally mounted in plastic with clear or smoke color lens.



## Infra red receiver/detector

Two types of IR receivers are used, a phototransistor or a photodiode



## Insulfrog

Description used by UK track manufacturer, PECO, to denote turnouts manufactured with an insulated crossing (frog). This avoids the need for polarity switching for the crossing at the expense of poorer current collection for locomotives.

# Interlocking

Name for means of linking the operation of points and signals such that signals can only show a proceed aspect when points are correctly set, and that points cannot be moved unless the signals over them are showing stop aspects. Interlocking can be mechanical, electrical using relays or carried out by computers.

# ISR

Interrupt Service Routine. A subroutine called automatically by processor hardware when conditions within a peripheral cause an interrupt flag to be set and the matching interrupt enable flag is also set. Often there are priority settings also, a High priority interrupt cannot itself be interrupted whereas a Low priority interrupt can be interrupted by a High level one.

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