

# keene electronics IRBKIT/S

## Overview

The Keene IR Distribution Amplifier enables IR control to be used on equipment that is located in positions where your remote wouldn't normally work. For example, equipment placed inside cabinets with closing doors or located on shelves behind you or around a corner. The unit is very flexible, allowing for a number of configurations that will solve almost all IR control problems.



## Connection sockets and basic operation

**IR IN** - is the Infrared input where the unit receives the IR signal to be distributed. This is normally connected to either a standard or wideband IR receiver. It can also be connected to the IR output from Keene CAT5 AV systems and wireless IR systems such as the Powermid (see diagram overleaf).

*(IMPORTANT please do not connect an output Wand to the IR input! There are pictures of each item overleaf if you're unsure).*

**Std OUT** - These are sockets for connecting the wands that output the IR signal. There is a choice of wands for these sockets, either **Universal, Low Power, Dual Blinking** or **Side Firing**. A **High Power** wand can also be used in this socket in low power mode if desired.

**High OUT** - This socket is for connecting to a **High Power** wand only.

The **Activity** LED flashes to confirm receipt of an IR signal

## Hints and tips for using the IR Distribution amplifier

**Wands:** The high power wands will work in either the high power or the standard power sockets, but the low power, Universal, Dual Blinking and side firing emitters will operate in the std sockets ONLY.

**Wiring:** If wiring up your own extension for the emitters always make all three connections so it will work with either the std or the high power emitters. The standard socket is wired anode to the tip of the 3.5mm plug and cathode to the barrel while the high power socket is wired anode to the ring on the 3.5mm plug and cathode to the barrel. For the receiver wiring the tip is 5v data (TTL), the ring is 5v supply, and the barrel is ground.

**Multiples:** It is permissible to use more than one IR receiver into the distribution amp, but only one can be receiving a signal at anyone time, otherwise the signals will mix and confuse the unit that you are trying to control. i.e. you can't put a wide band and a standard receiver next to each other and feed both to the distribution amp as you will get a garbled result.

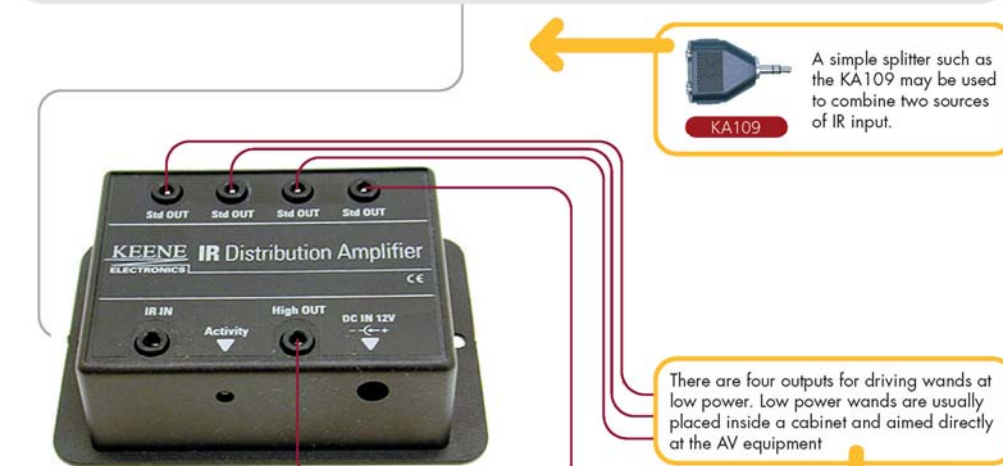
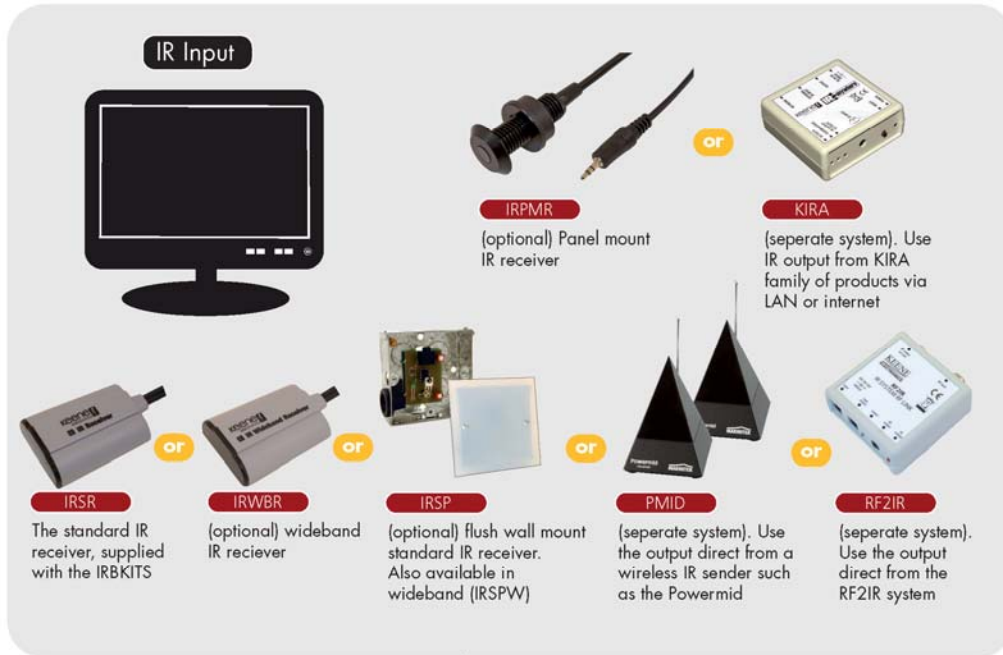
**Sources:** It is also possible to confuse the IR receiver on the equipment you want to control by having 2 sources of IR. for example having a standard emitter on the front of a VCR and a high power emitter pointed at the same VCR would result in 2 conflicting signals at the VCR and could result in mis-operation.

**Positioning emitters:** All the emitter diodes are directional (rather like a narrow torch beam) and this should be borne in mind when positioning the emitters. The standard ones are designed to be fitted onto say a VCR just to one side of the IR receiver. The diode pointing at the IR receiver. (This is why the diode is directed at about 30 degrees downwards) The high power emitters can be positioned up to 10 meters away from the device to be controlled and must be pointed directly at it. The standard emitters can be used in some circumstances at up to about 4 meters away BUT the diode must point at whatever you want to control – note that it is normally angled down at about 30 degrees

**Positioning receivers:** Take care when positioning the receiver. The wideband receiver can be affected by IR interference from TV scan coils, LCD panels, fluorescent lights and direct sunlight . Any interference will be noticeable because the IR distribution amp light will be flickering. Because of the effects of filtering a wider bandwidth results in a poorer sensitivity. This means that the Standard receiver has limited bandwidth but a very good range (distance) and conversely the wide band receiver has a good bandwidth but poorer range. **In general the standard receiver will give the best performance and the wide band should only be used if you have equipment that doesn't operate in the 40Khz band.**

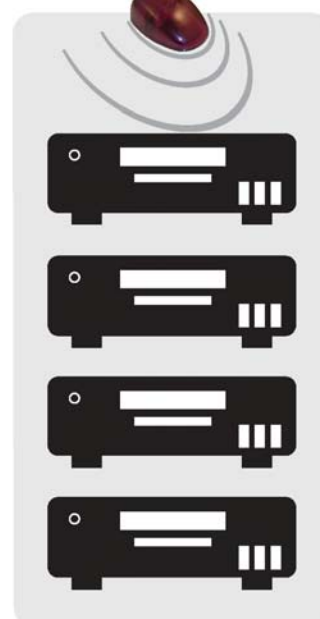
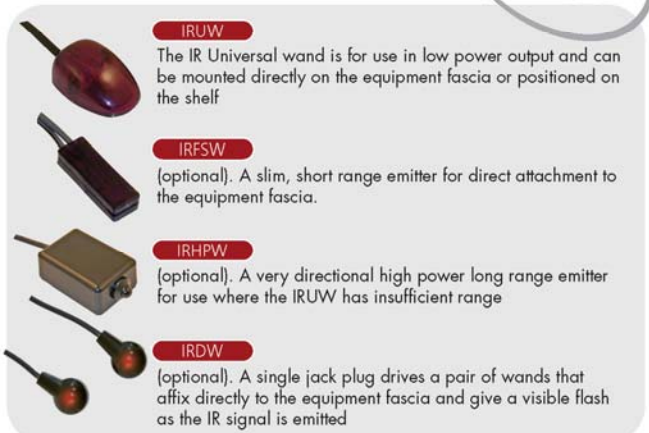
**Splitter:** Whilst a splitter (KA109) may be used on the input it should never be used on a wand output.

## Keene IR Distribution Amplifier Schematic



The main body of the IR distribution amplifier is usually located out of sight or within the AV cabinet. It operates from 12v DC allowing for easy integration in marine or travel installations, a mains to 12v adaptor is supplied.

There is one output for driving wands to high power. High power wands can be used to control equipment located up to 10m away.



## Useful product codes

Code	Description
IRBKIT	Basic IR Distribution Amp kit containing 2 universal wands, Distribution amp and power supply
IRBKITS	Basic IR Distribution Amp kit containing IR Standard Receiver, 2 universal wands, Distribution amp and power supply
IRBKITSH	Basic IR Distribution Amp kit containing IR Standard Receiver, 1 universal & 1 High Power wand, Distribution amp and power supply
IRBKITPW	Basic IR Distribution Amp kit containing Panel Mount Receiver (white), 2 universal wands, Distribution amp and power supply
IRBKITPB	Basic IR Distribution Amp kit containing Panel Mount Receiver (black), 2 universal wands, Distribution amp and power supply
IRCM	Advanced IP network capable IR Distribution Amplifier with multiple inputs and outputs
IRUW	Universal wand
IRLPW	Low power wand
IRHPW	High power wand
IRSFW	Side firing wand
IRDW	Dual Blinking wands
IRSR	Standard receiver for most domestic equipment (40KHz)
IRWBR	Wideband IR receiver for equipment up to 100KHz
IRSP	Flush mounted single gang wall plate containing a standard IR receiver
IRSPW	Flush mounted single gang wall plate containing a wideband IR receiver
IRPMR	Panel mount IR Receiver (black)
IRPMRW	Panel mount IR Receiver (white)
KLDE6M	Couples the Powermid IR output directly to the IR distribution amp input (3.5mm jack to 3.5mm jack)
KLDE10M	Couples the 2.5mm IR output from other manufacturers equipment directly to the IR distribution amp input (2.5mm jack to 3.5mm jack)
KLD40	3 metre extension lead for input or output
KLD405	5 metre extension lead for input or output
KLD4010	10 metre extension lead for input or output
KA175	A short (25cm) line adaptor with an RJ45 line socket to a 3.5mm stereo jack plug. Allows use of standard CAT5 network cables to extend the distance between the IR receivers and the Keene IR distribution systems. Works up to 100m.
KA109	IR input splitter 1 x 3.5mm jack to 2 x 3.5mm sockets for using both cabled feed (Powermid) and in-room IR receiver