

Optional extras

Code	Description
IRSR	Standard IR receiver suitable for most domestic equipment (40KHz)
IRWBR	Wideband IR receiver for equipment up to 100KHz
KLDE6	Couples a Powermid IR output directly to the IR Commander input (3.5mm jack to 3.5mm jack)
KLDE10	Couples a Wavecom IR output directly to the IR Commander input (2.5mm jack to 3.5mm jack)
IRC4A	4 input expansion module
IRLPW	Low power emitter wand
IRHPW	High power emitter wand
IRSFW	Side firing emitter wand
IRC4B	4 output expansion module
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
KLD39	Video grade phono to phono cable for couple point connection of two IR Commanders

IR Commander connections explained

(clockwise from top right)

IN (1,2,3,4) Where the unit receives the signal to be distributed. Would normally be connected to either a standard IR receiver or wideband receiver. **IMPORTANT** – Do not connect an Output Wand to the IR input! There are pictures of each item on page 4 if you're unsure.

INPUT EXPANSION MODULE . For connecting a 4 input expansion module via CAT5 cable. Once connected the module allows the connection of up to four further IR receivers. The remote module may be located up to 50m distant.

HIGH POWER OUT (x2). For connection to a high power output wand (only). A high power wand would normally be used to control equipment up to 10 metres away (line of sight). **OUTPUT EXPANSION MODULE (1,2)**. For connecting output expansion modules via CAT5 cable. Once fitted, each module allows for up to four further IR emitters to be connected. The remote modules may be up to 50m distant.

STANDARD POWER OUT (x3) These are sockets for connecting the wands that output the IR signal. There is a choice of wands, either Low Power which can be positioned on the equipment fascia or up to approximately 4 metres away (line of sight) or Side Firing wands which attach directly to the equipment fascia.

DC IN Power input socket for mains adaptor (included with IR Commander Basic Kit). The **INTERNAL IR RECEIVER** is an on-board wideband receiver. May be disabled (by the enabler dip switch) if preferred.

ENABLER DIP SWITCH used to disable/enable status LEDs and/or internal IR receiver. **STATUS LEDs** flash to confirm receipt of an IR signal. The LED will confirm the input on which the signal was received. Function may be disabled if preferred.

The **COUPLE POINT** provides the means to join two IR Commanders together. Linking the couple points effectively unites the buses of the two units, so an IR input on either unit would generate an IR output on all. Use a video grade phono to phono cable (ideally no longer than 1m) such as order code KLD39 or similar to link couple points.

WAND IN For connection directly to the output of a wireless IR extender like the Powermid or similar).

Basic Operation

Set-up options for a basic (unexpanded) IR Commander are summarised in Diagram 1. By way of an example, the diagram can be used to illustrate a typical installation where remote control of all local equipment can be achieved without moving from a seat in front of the TV. In this example a discreet receiver (either a 40KHz Standard receiver [IRSR] or a Wide Band (100KHz) receiver [IRWBR]) is placed near to of the TV then connected to one of the inputs of the IR Commander, the IRC having been located in its chosen position. Next, the IR emitter wands (one for each item of equipment to be controlled) are positioned. High power wands [IRHPW] (1 included in IR Commander Basic Kit) are effective up to 10m line of sight. For shorter distances low power wands are satisfactory. For enclosed equipment the emitter is best fitted inside the enclosure with the equipment, low power wands next to the equipment, side firing wands directly to the equipment fascia. All that remains is to connect each of the wands to an appropriate output of the IR Commander and power up, and presto!, complete control of all your equipment, no matter how hidden away, as if it was right in front of you like the TV.

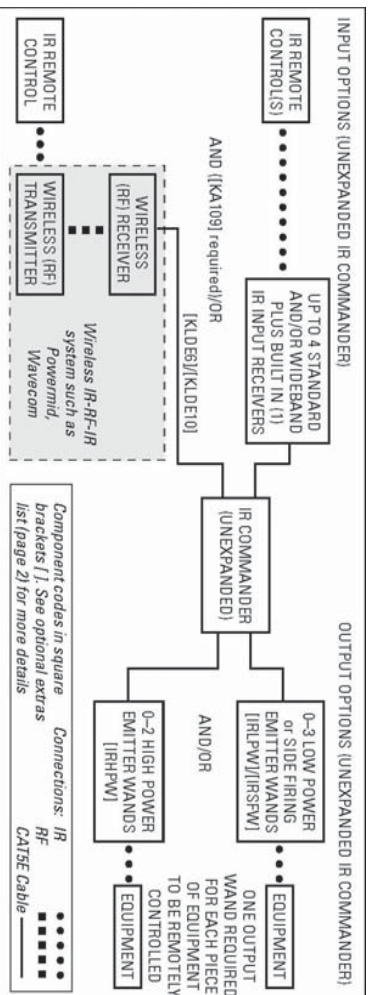


Diagram 1. Input/Output options for unexpanded TR Commander

Extending the functions of the IR Commander

The IR Commander may be used with (optional) input and output expansion modules.

Extended input operation

The input expansion module has sockets for up to four more IR receivers. If required, the expansion module itself may be placed some distance away from the IR Commander, connected via CAT5 cable. This is useful if you would like to extend the control options to other rooms.

Extended output operation

The output expansion module has sockets to allow up to four more IR output wands to be used. If required, the expansion module itself may be placed some distance away from the IR Commander, connected via CAT5 cable. This is useful if you would like to extend the control options to other rooms.

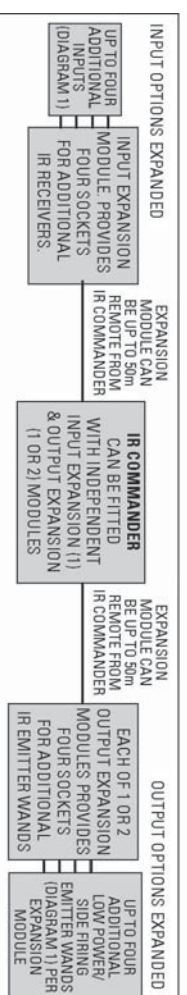


Diagram 2. Input/Output expansion of the IR Commander

Hints and tips for using the IR Commander

- 1 Do not connect an Output Wand to an IR input! There are pictures of each item below if you're unsure.
- 2 The high power wand will work in either the high power or the standard power sockets, but the standard power emitters will operate in the standard sockets ONLY. 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. Any combination of high or low power emitters may be used with an output expansion module.
- 3 If wiring up your own extension for the emitters always make all three connections so it will work with either standard or high power emitters.
- 4 It is 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.
- 5 All the emitter diodes have a directional output, rather like a narrow torch beam, and this should be borne in mind when positioning the emitters. Standard emitters are designed to be fitted onto (say) a VCR just to one side of the VCR's IR receiver with the emitter 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 metres 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 metres away BUT the diode must point at whatever you want to control *ñ* note that it is normally angled down at about 30 degrees.
- 6 Take care when positioning the receiver. The wideband receiver can be affected by IR interference from TV scan coils, 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.
- 7 CAT5 cable should be normally wired EIA568B or natural pairing (NOT network cross-over cable).



Standard IR input receiver [IRSR]



Wide band IR input receiver [IRWBR]



High power IR output emitter [IRHPV]



Side firing IR output emitter [IRSFV]



Low power IR output emitter [IRLPV]

IRC IR input receivers and IR output emitter wands.

The IR Commander is an innovative AV utility designed and manufactured in the UK by Keene Electronics Limited

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Keene Electronics IR Commander Remote Control Extender System

Product data and instruction sheet

Overview

The Keene IR Commander enables IR control of AV equipment located in positions inaccessible or not normally easily accessible to your hand held remote, for example equipment inside cabinets with closing doors, located on shelves behind you, around a corner of a wall or in an alcove, even in other rooms. The unit is very flexible, offering configurations that will solve almost all IR control problems. The IR Commander builds on the proven technology of the Keene IRBKIT IR Distribution Amplifier to provide a greatly increased number of inputs and outputs, while optional expansion modules allow control of equipment up to 50m distant, providing a solution for even the most demanding and complex installations. A fully connected unit provides a maximum of 10 IR receiver inputs and 13 IR emitter outputs. One IR Commander can even be coupled to another to provide 20 in x 26 out.

Features:

- On board IR receiver (may be disabled if required)
- 4 receiver input jacks
- 1 wand input jack (to take direct output from Powermid or similar)
- 1 input module RJ45 socket. Allows an additional 4-input module to be connected via CAT5 cable at a distance of up to 50m
- 2 high power output jacks
- 3 standard power output jacks
- 2 output module RJ45 sockets. Use of optional expansion modules allows control of equipment up to 50m away.
- Couple point allows two IR Commanders to be linked to provide an even greater number of input/output options.
- LEDs indicate which input is active. When IR activity is detected on one input all other inputs are momentarily blanked to ensure the signal remains pure and is cleanly transmitted. (LEDs may be disabled if required.)

IR COMMANDER BASIC KIT

Comprises: Keene IR Commander, 240V UK mains power adaptor, 1 x high power emitter wand

Specifications:

(correct at time of printing; may be subject to change)

Power: 12V DC @300mA (UK adaptor supplied, euro available on request)

Receiver threshold: 1.5V zener protected at 5V max. input impedance 3kohm