CATLINK

DISTRIBUTION HUB

INSTALLATION NOTE

Infrared Remote control distribution system

The *CATLINK* infra-red remote control distribution system is designed for use in structured cabling systems employing twisted pair category 5 (cat5) cabling and using the RJ45 as a common connector.

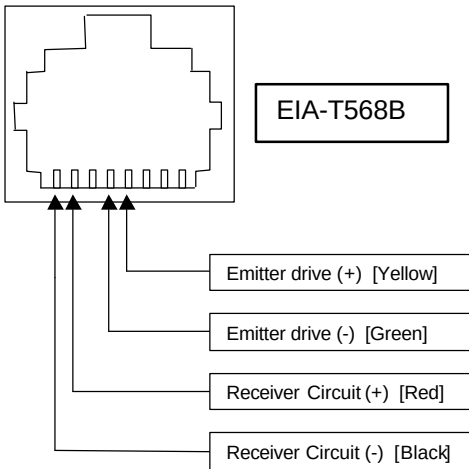
The Distribution hub is the central component of the *Catlink* system and provides power to and receives signals from *Receiver heads* and converts and drives these signals out to the emitter circuits that drive the *emitter sets* that are positioned over the equipment to be controlled remotely. The hub is designed to be either free standing or wired into a patch panel arrangement.

The Distribution hub is connected to the distribution network via four RJ45 sockets which are wired with pair 4 providing power and signal reception for Receiver heads and pair 1 driving Emitters.
This leaves pairs 2 & 3 for other applications such as telephone or 10baseT network if required.

The four RJ45 connectors are grouped into two pairs (designated 'ports A & B') providing two independent receiver head circuits. Each of the two reception circuits can support up to 6 receiver heads, therefore providing support for up to 12 receiver heads per hub.

All RJ45 connectors can drive the Emitter network and can be parallel wired to Emitter signals of extra hubs thereby allowing larger networks to be built up from multiple hubs.

Each RJ45 connector has 8 pins (4 *pairs*) and the hub uses 2 pairs of pins for connection.
All four connectors are wired in the same manner with pin allocation according to EIA-T568B.



Pair 4 (RJ45 pins 7&8, *CAT5* colours BRN/WHT & BRN) connect to the receiver heads and hub provides regulated power to this pair also to power connected receiver heads. This allows the feature of only requiring two wires (i.e 1 pair) to connect & power receiver heads to the hub.

On all sockets, Pair 1 (RJ45 pins 4&5, *CAT5* colours BLUE & BLUE/WHT) connect to Emitters circuit that drives the emitters positioned over the infrared reception windows of the equipment to be controlled.

Signals received on any RJ45 receive circuit will produce emitter drive signals on pair 1 (pins 4&5) of all RJ45 sockets.

The indicator LED adjacent to the connectors flashes whenever a signal is being driven out of the emitter circuit.

The hub is powered by 13.8~18V DC via the DC socket.
Maximum current rating is 1 Amp.
Minimum recommended power supply rating is 13.8V DC @ 0.5A.

NOTE: Most 12VDC @ 1Amp unregulated power adaptors are suitable for powering the hub as the typical unloaded voltage for these types of DC adapters is around 15V. See website for details.

For further applications/installation or product information, visit the ControlPlus website

www.controlplus.co.nz

CONTROL PLUS

INFRARED REMOTE CONTROL DISTRIBUTION SYSTEMS
ControlPlus Products, PO Box 125, Silverdale, Auckland, New Zealand

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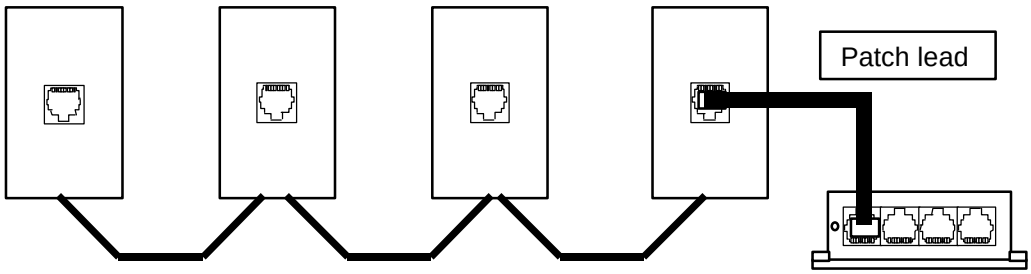
EXAMPLE CONNECTION ARRANGEMENTS

Simplest Arrangement – No Patch Panel

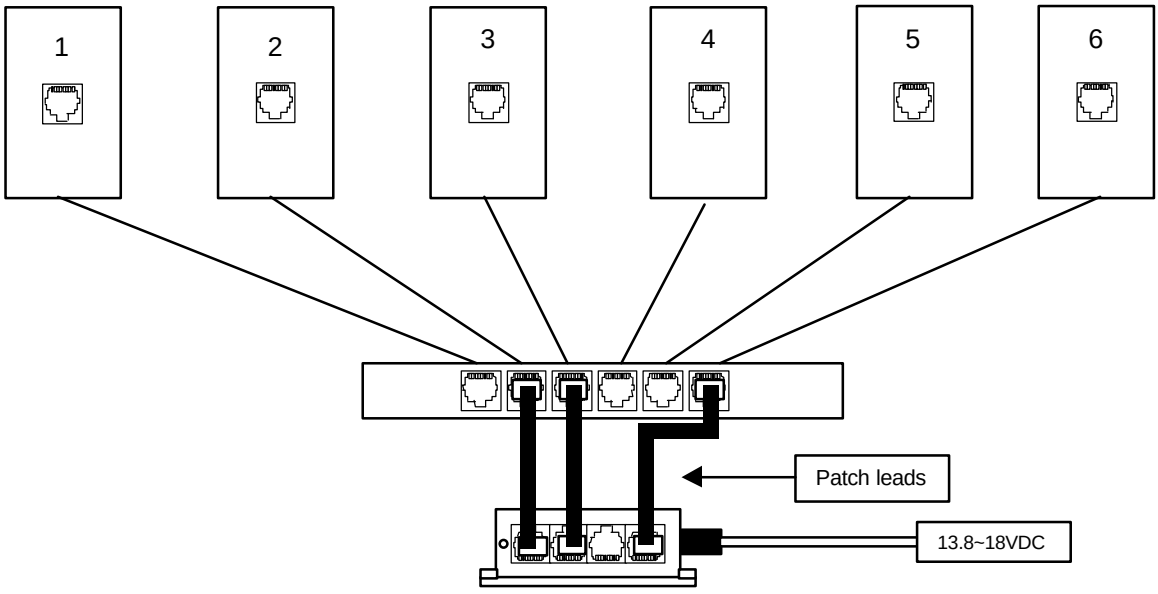
In the simplest arrangement where no patch panel is to be installed the hub can be simply connected to a series of parallel wired RJ45 wall plates and the hub attached at some place in the arrangement with a signal patch lead.



Connection of the Emitters and Receiver Heads is done by just plugging them into the desired wall plates – no other cabling required.
This is the simplest arrangement to install but does have the disadvantage of not being a structured cabled system.
Note: do not string more than six wall outlets to one hub port pair.

Typical RJ45 Patch Panel Arrangement.

Most structured cabling systems employ at least one patch panel which all RJ45 outlets terminate to. This is referred to as 'star-wiring' and allows definition of outlet function by use of patch leads.
In the example below the Distribution Hub is connected to wall plates 2, 3 & 6.
Connection of the of the emitters and receiver heads is done by just plugging them into the desired wall plates.



The number of outlets supported can be extended beyond the four provided by the distribution hub by providing option in the patch panel for parallel connection of outlets to a single Hub socket. Do not attach more than 6 outlets to a distribution hub port.

110 Patch Panels.

Other types of installations using 110 patch panel (i.e pair level instead of cable level management) may also be employed and in this situation special patch leads linking the hub to the 110 patch panel are required.