



HILLS INDUSTRIES LIMITED

A.C.N. 007 573 417

Product Selection and Installation Guide

for the

Home Automation System

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Why use a “Home Automation” system?

If you have (or wish to have) multiple TVs in your house, this is the answer for you. This system allows you to watch and possibly control any available video source from any TV in the house.

The philosophy behind this system is to feed all video sources through a central distribution splitter, with inputs from an antenna receiving off-air *VHF/UHF* and from the modulator(s) operating at *UHF*.

How do I make my home compatible?

If you are building a new house, you need to predict the points where your televisions will be located as cable will need to be distributed to each of these locations before the gyprock walls are added.

Specific attention should be paid to where the master TV and the A/V sources are located (DVD, VCR, Set Top boxes etc.), in this location two cables are required in parallel to accommodate a twin wall plate (output and input).

If you own an existing house and it is brick veneer, you should be able to add new wall plates and run cables up through the walls to the ceiling, otherwise, seek the advice of a professional installer.

Hints for layout and materials required

The type of cable required for best performance is RG-6 quad shield, and the best connection method for longevity of the system is f-type connectors and f-type wall plates.

Hills Connection Materials Guide

RG-6 Quad Shield Cable :	BC46060 or BC46061 (<i>Length calculated by user</i>)
F-type Connectors (ten) :	BC2092BP (<i>Two connectors per cable</i>)
Wall Plates :	BC86818 or BC86819 (<i>Twin for master TV, single for each additional TV</i>)
Flyleads (F to PAL male) :	BC86834 (<i>One for each TV</i>)
Flyleads (F to F) :	BC86827 (<i>One for master TV, one for each TV with IR target</i>)
A/V Flyleads :	BC508 (<i>One for each A/V source – input to modulator</i>)

Hills Electronic Materials Guide

Home Automation Distribution Splitter :	FC658138
Home Automation Modulator :	FC658139 (<i>maximum of two per splitter</i>)
Home Automation Modulator (Euro/NZ):	FC658159 (<i>maximum of two per splitter</i>)
IR Target (Advanced):	BC3041 (<i>one for each TV that controls A/V sources</i>)
IR Emitter (Advanced) :	BC3042 (<i>one for each A/V source</i>)

Home Automation Modulator (H.A.M.) - FC658139, FC658159

The modulator unit should be situated behind the master TV cabinet where it is fed by the A/V flyleads from the A/V sources. The modulated UHF output is connected to the input of the master wall plate and travels to the ceiling where it is fed into the H.A.D.S.

The H.A.M. channels should be programmed so they are not using the channel immediately above the local off-air stations nor should they be adjacent to each other eg. SBS is at CH28 & 33 in Adelaide so CH 27,30,31,32,35... are acceptable settings for a single channel. If one wishes to use four channels in this region CH 27,30,32 & 35 would be a good selection.

For details on programming the H.A.M., please read the instructions printed on the unit.

Home Automation Distribution Splitter (H.A.D.S.) - FC658138

The splitter unit should be situated somewhere central, in the ceiling, where the cables from each room will meet. It is wise to number each cable at both ends so that the cables can be connected to the splitter box correctly while up in the ceiling.

The inputs of the H.A.D.S. will usually be:

- (1) ANTENNA RF IN – a suitable local antenna system.
- (2) CTV RF IN – the output of the H.A.M. fed with A/V sources.

and sometimes,

- (3) AUX RF IN – this input should only be connected to the output of a second H.A.M. fed by devices such as security camera(s), or to the single channel modulated output of a CCTV camera.

These transmissions are redistributed throughout the house via the H.A.D.S. outputs to as many as six separate televisions. Each TV can display all available channels. It is a good idea at this point to spend the time to tune in each available program on each TV (tuning each TV correctly now will prevent future confusion).

Advanced

For those people interested in remote control of the A/V devices from any *secondary* TV outlet in the house, please read on.

IR Target

The IR target can be placed anywhere line-of-sight of the transmitting remote control, but will generally be fixed atop the TV using the adhesive Velcro strips, or double-sided tape. The IR target should be connected via an f-type fly lead from the wall plate to the "SYSTEM" port, and an f-type/PAL fly lead from the "TO TV" port to the back of the TV.

Any IR remote signal directed at the target will be injected into the system and travel back through the RF cables to the H.A.D.S. where it is cleaned up and retransmitted to the H.A.M.

The remote IR should now be accessible from any of the four "IR REPEATER" jacks.

IR Emitter

The IR emitter has a stereo plug and can be inserted into any one of the modulator's "IR REPEATER" jacks. One can be mounted on the inner door of the video cabinet to spray IR back at the A/V devices, or, multiple emitters can be mounted directly onto each IR receiver of each A/V device.

As long as you have the right remote control in your hand, you should now be able to control any A/V source from any room.

Troubleshooting Guide

(1) Occasionally there is a problem of overdriving some TV / Video tuners – typically this causes various types of distortion to the picture. The best solution is to reduce the signal to the “ANTENNA RF IN” of the H.A.D.S. by adding about 6dB of attenuation to this input (note: later models may have an on-board attenuator at the antenna input).

(2) DC blocks (specifically capacitors) can exist in some mains isolated wall plates and other devices used for interconnection – there needs to be a DC path between the H.A.M. & H.A.D.S. and between the H.A.D.S. and the IR targets.

(3) Be careful with the polarity of the IR target – it is a polarized device, one end connects to the H.A.D.S. and has power applied, the other to the TV and is DC blocked.

(4) Be mindful when placing the IR target that it is not exposed to direct sunlight, this can result in noise pick-up for the TV and the IR signalling system.

(5) If you cannot find the IR receiver of an A/V device it may help to shine a torch into the device and look for a round black photo-diode. Try not to cover it completely with the emitter otherwise the remote signal may be blocked when trying to control these devices from the Master TV location.

(6) It pays to terminate any unused wall plate with the 75-ohm plug provided in the H.A.D.S. kit. Alternatively leave the cable for this outlet disconnected in the ceiling until it is required.

(7) A surge arrester is advised for free-to-air antenna systems to protect downstream electronics.

Guarantee

Hills Industries Limited undertake that if the product has failed to operate correctly due to faulty workmanship or defective material, it will repair or replace the part free of cost for a period of twelve (12) months from the date of purchase of the article, given fair wear and tear.

It is a condition of this guarantee that the product has not at any time been serviced by anyone other than Hills Industries Limited, nor altered or interfered within any way whatsoever.

Hills Industries Limited reserves the right to determine whether the damage has been occasioned by accident, misuse or improper installation whereby the guarantee would be void.

Hills Industries Limited will not be responsible for any cost in connection with freight or postage, or for the expenditure necessary to dismantle the article, replace the part in position and re-assemble the article.

Damage caused by static build-up and/or electrical storms is not covered by this warranty.

THIS GUARANTEE IS ADDITIONAL TO ANY RIGHTS OR REMEDIES CONFERRED ON THE CONSUMER BY THE TRADE PRACTICES ACT OR STATE LAWS.