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1. Introduction

This application note has been created to assist in Catlink installations that are required to control *Mysky* decoders with specific examples of the *Mysky HDi decoder*.

The *Mysky* remote control system employs an extremely narrow IR control waveform that is not particularly easy to repeat or control. It's narrow pulse width IR control waveform is not resilient to the effects of reflections or multipath reception.

The *Mysky HDi* decoder differs from the previous Sky decoders in that it has what appears to be a much more sensitive IR receiver. This certainly has improved the angle of operation and sensitivity using direct control from the IR remote control however it has posed some problems with IR repeating systems as the receiver now is very easy to overload.

If using a standard *Catlink* EM01 emitter pair and CL-EMADP-1 or CL-EMOUT6EL then direct attachment of the emitter to the IR reception window of the *Mysky HDi* decoder is not recommended without first applying at least two layers of IR reducing filter tape to the reception window.

NOTE: It is very important that the decoder cannot receive IR signals from the IR remote control and the *Catlink* emitter at the same time.

If the decoder to be controlled is mounted inside an equipment cupboard then it is also a good idea to eliminate the chance of stray IR back-scatter from other emitters being received by the decoder. This can be done by placing black PVC tape over other emitters that are mounted on other equipment. Spare emitters should also be covered in black tape to avoid reflection interference.

The remaining pages of this application note detail emitter installation options for controlling *Mysky HDi* and Receiver head tuning procedures.

Please also refer to the other installation documents found on the controlplus website <http://www.controlplus.co.nz>

2. Emitter Installation

2.1 Emitter Installation Option #1 : under decoder

Using *Catlink* EM01 & CL-EMADP-1 or CL-EMOUT6EL

Mount Emitter under area of IR reception window:



In this arrangement the domed face of the emitter is pointing up to the IR reception window.

2.2 Emitter Installation Option #2 : To side of decoder

Using *Catlink* EM01 & CL-EMADP-1 or CL-EMOUT6EL

Mount Emitter with domed face outwards to side of cupboard wall adjacent to decoder so that it has reasonable line of sight to IR reception window.



2.3 Emitter Installation Option #3 : Inside of door

Using *Catlink* EM01 & CL-EMADP-1 or CL-EMOUT6EL

Mount Emitter with domed face outwards to inside wall of cupboard door so that it has reasonable line of sight to IR reception window of decoder.
Maximum typical distance from emitter to IR reception window on Mysky decoder ~ 20cm.

2.4 Emitter Installation Option #4 : Direct attachment

Using *Catlink* EM01 & CL-EMADP-1 or CL-EMOUT6EL & IR attenuation tape.

For applications where it is preferred to have the emitter mounted directly over the IR window.

Apply 2 layers of Controlplus IR attenuation tape over window and stick emitter over top of it.



The IR attenuation tape will also block other IR stray signals

A short length of tape (sufficient for 2 layers) is now packed with each emitter pair.

Additional tape can be obtained - use part # CL-IRTAPE-20

3 Receiver head tuning for the *Mysky HDi decoder*.

3.1 Introduction

The pulse timing in the receiver head is critically tuned during assembly to work with this equipment however it is possible in some applications that this timing is still not correct.

If the remote control reaction is sluggish and all other factors have been eliminated (such as emitter installation, wiring or location of the receiver head) then tuning may solve the issue.

The Catlink MS series of receiver heads have a timing adjustment pot that can be used to tune the operation of the receiver head for timing critical waveforms.

Please refer to the application note ***Catlink_RXhead_timing_adj.pdf*** on the Controlplus website <http://www.controlplus.co.nz> for details on how to identify MS series receiver heads and access the adjustment pot.

3.2 Procedure for MySky tuning



1. Set up receiver head so that the adjustment pot is accessible and the related display panel or T.V. is viewable. Ensure the Mysky remote control has fresh batteries installed.

2. Access the *Guide* menu.

3. Stand 2-3 meters away from receiver head.

4. Using the remote control, check the performance of the menu selection up and down commands. The menu bar should move up and down without many (if any) pauses.

5. If the **up** command seems sluggish compared to the **down** command then adjust the pot a quarter turn **anticlockwise** and then retest.

6. If the **down** command seems sluggish compared to the **up** command then adjust the pot a quarter turn **clockwise** and then retest.

If no solution or improvement is found then the issue may lie somewhere else (such as emitter installation, wiring, hub etc)